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PLICATION OF THE ROUND AND ANTERIOR FOLD OF THE BROAD LIGAMENT ON THE ANTERIOR SURFACE OF THE UTERUS FOR RETRODISPLACEMENT *

R. C. COFFEY, M.D.
PORTLAND, ORE.

ANATOMIC AND SURGICAL PRINCIPLES

This presentation is made more to illustrate the anatomic and surgical principles underlying the entire subject of the treatment of retroversion, than to set forth any specific mechanical detail. The uterus is very largely an intra-abdominal organ. All intra-abdominal organs are supported almost entirely by peritoneal folds. The peritoneum is supported in turn by a loose connective tissue which holds it loosely but persistently to the abdominal wall except at its upper attachment, where it is firmly fixed and blended with the diaphragm. Strictly speaking, the abdominal organs, which we refer to as intraperitoneal, are all extraperitoneal, inasmuch as every organ lies between two layers of peritoneum made as if the organ had been pushed into the peritoneal sac from the outside, and had become adherent to it.

New ligaments are formed during fetal development and rotation, by the contact of two peritoneal surfaces which adhere, blend, and become obliterated at point of contact. This may be illustrated by the rotation of the colon, which goes upward and to the right and adheres to the peritoneum of the posterior abdominal wall and thereby forms the mesocolon. The spleen rotates to the left, comes in contact with the peritoneum of the posterior abdominal wall, adheres to it, obliterates the endothelial coverings and thereby the ligament of the spleen is formed and it is fixed on the left side. The omentum grows from the lower border of the stomach down over the transverse colon and adheres to it at the point of contact, its surfaces blend and we have the gastrocolic ligament or gastrocolic omentum. If the peritoneal surface of the stomach is plicated by bringing the anterior superior border and the anterior inferior border together and holding them firmly by peritoneal sutures, all of the space enclosed by this line of sutures becomes obliterated. If the omentum is sutured to the abdominal wall and held firmly, the surfaces blend and a complete partition is made across the abdomen. If the lesser omentum is plicated for a gastroptosis, Beyea has found that the surfaces blend and the omentum or ligament is permanently shortened.

The Kelley operation proves more conclusively than anything else the certainty of the blending of peritoneal surfaces, for we find that after Dr. Kelley's operation (which does not use one-twentieth the amount of peritoneum found supporting other organs of equal weight), in only a small percentage of cases does the uterus fall backward, and in nearly all of those cases in which the uterus does fall backward, the ligament is found, not broken, but attenuated to a thread. This operation has probably been done more times than any other intraperitoneal operation, with the exception of the removal of the appendix, tubes or ovaries; and with remarkable success when we consider that it first struck the vital point of treating displaced organs. Alexander unwittingly used the same principle in drawing out the round ligament and with its covering of peritoneum which blended at the internal ring, shortening the anterior fold of the broad ligament just so much as there was of peritoneum passing through the internal ring. The operation was later spoiled by meddlers who pushed the peritoneum back off the ligament, as a result of which the operation has fallen largely into disuse. The Gilliam, the Mann, the Simpson, the Baldy-Webster and all operations which are used to-day and have been found to be successful, use the peritoneum of the broad ligament; consequently I think the formulation of the following rule is justified: "Two peritoneal surfaces brought together and held firmly in an aseptic state, adhere, blend, and obliterate and the contiguous surfaces lose their endothelial covering, becoming continuous at the point of peritoneal contact."

The uterus, however, differs from the other peritoneal organs in that it is permitted a wider range of motion because of its functions; also, in that it is connected directly with the outside and therefore must be protected from extrusion. Because of the necessity for extraordinary mobility, the peritoneum of the broad ligament, the principal ligament, is attached extensively before and behind to the sides of the uterus and well down near its middle between fundus and cervix. Thus a very extensive attachment of peritoneum supports the uterus and, because of the large amount of loose connective tissue holding the peritoneum to the fixed wall of the pelvis, gives it a wide range of mobility. According to Nature's law of conservation, the uterus, which is so loosely attached, is turned in the pelvis, so that it lies practically crosswise.

Owing to the fact that such a variety of positions must be assumed, it becomes necessary to have some other means of automatically or involuntarily poising this organ and keeping it in this position at right angles to the body. Therefore the round ligament becomes a necessity, and is, histologically, perfectly constructed for such a function, as indicated by the following definition, taken from Sobotta:

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* Read in a symposium in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910. Some articles of this symposium appear on later pages of this issue and others, with the discussion, will be printed next week.

In addition to the broad ligament, the uterus possesses other ligaments which are to be regarded as a continuation of its musculature. The most important of these is the round ligament, which is essentially a cylindrical or slightly flattened muscular cord, 12 to 15 cm. in length, which takes origin on either side from the anterior surface of the uterus in the vicinity of the uterine extremity of the tubes, and runs at first almost horizontally, then forward and downward between the layers of the broad ligament covered mainly by the anterior one. In the vicinity of the uterus the ligament is thickened and consists solely of connective tissue and nonstriated muscle but in its course through the inguinal canal it usually receives fasciculi of striated fibers from the internal oblique and transversalis which are continued on it for a varying distance, frequently extending almost to the uterus but never passing externally beyond the inguinal ring. He further says: "Similar continuations of the uterine musculature are the recto-uterine which run in peritoneal folds of the same name and connect the superficial musculature of the rectum with that of the uterus. The uterosacral ligaments are connective-tissue fasciculi which accompany the muscular similarly named folds to the region of the second and third sacral vertebræ where they fuse with the peritoneum.

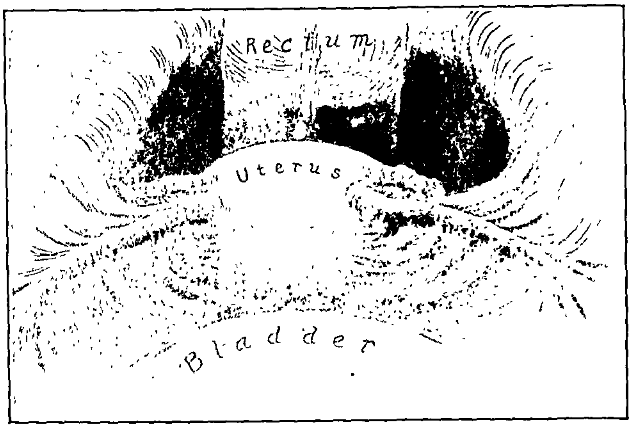

Fig. 1.—Relations in partial retrodisplacement of the uterus.

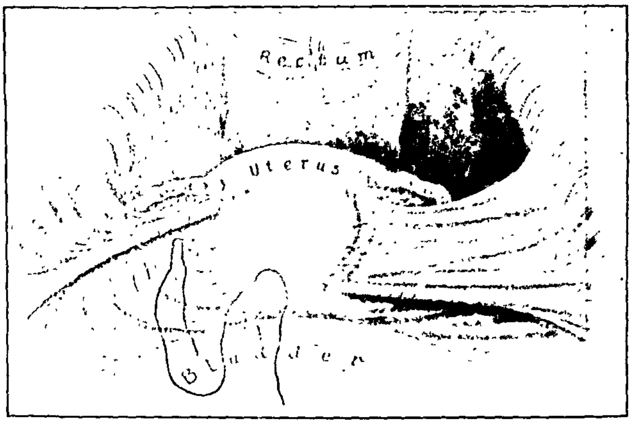

Fig. 2.—First step in author's round and broad ligament plication.

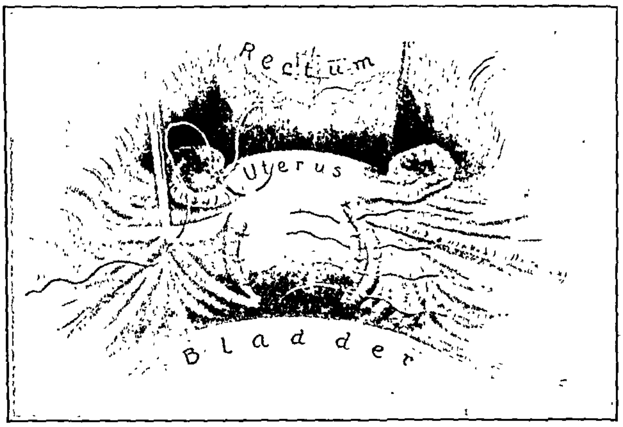

Fig. 3.—Second step in author's operation.

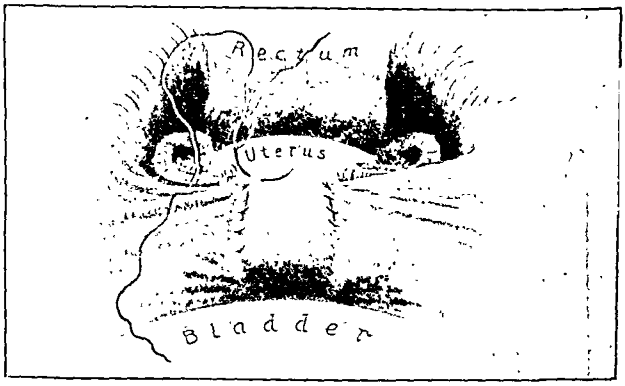

Fig. 4.—Third step in author's operation.

Taking up the physiology, we find that a muscle fiber has no other function than that of contraction and producing motion. We also know that a muscle fiber will under no circumstances stand a continuous strain, and that a muscle is therefore totally unfitted for taking up the work of a ligament proper; consequently, the only physiologic function for which the round ligament could be used would be for producing motion, aside from the function performed by the connective tissue, which is an extraordinary precaution to prevent the uterus from being extruded. It is therefore very evident that the function of the round ligament must be that of automatically poising the uterus during the various positions assumed by the individual and thus preventing it from becoming a dead weight on the broad ligament.

OPERATION

Following the early operations of double salpingectomy and oophorectomy, in which the broad ligament was tied off *en masse*, and in which the round ligament was frequently included, a large percentage of the patients developed a retroversion. If one or both round ligaments are destroyed by traumatism, retroversion will usually take place later on; therefore it seems that the round ligament and the broad ligament are equally essential to the proper holding of the uterus in position —the broad ligament to carry the constant weight, the round ligament to poise it on this support in a manner making it easy to carry. Such being the case, the ideal operation for retrodisplacement of the uterus should shorten the broad ligament and at the same time avoid permantly fixing and thereby hampering the movements of the round ligament. Therefore I submit the following operation:

Before beginning the operation proper, break up adhesions, treat adnexa, lifting the uterus, and pack a sponge back of it which leaves it in the position shown in Figure 1. Then seize the round ligament about an inch and a half from the uterus, and with a No. 2 or No. 3 chromicized catgut, stitch to the anterolateral border of the uterus at the beginning of the vesico-uterine fold. Place three or four similar sutures between this point and the uterine end of the ligament (Fig. 2). Thus a double fold of the broad ligament is brought over to the side of the uterus.

Seize the ligament an inch and a half further on and bring it up to a point just above and internal to the uterine end of the round ligament and fasten with a chromicized catgut suture. Place three or four more sutures between this and the first suture at the vesico-uterine fold (Fig. 3). Thus, two more peritoneal or broad ligament layers are brought over to the side and front of the uterus.

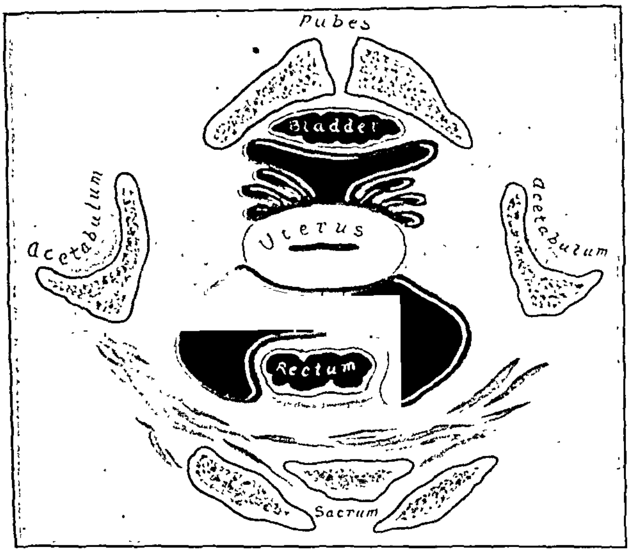

Fig. 5.—Sectional view, showing scheme of plication operation.

With a No. 1 or 2 chromicized catgut continuous suture, bring a fold of peritoneum from each side over the line of interrupted chromicized sutures. This continuous suture may include as much of the peritoneum as necessary to bring it taut; care must be made to avoid pulling in the bladder. (Fig. 4). Be careful not to include the entire thickness of the round ligament in any of the rows of sutures.

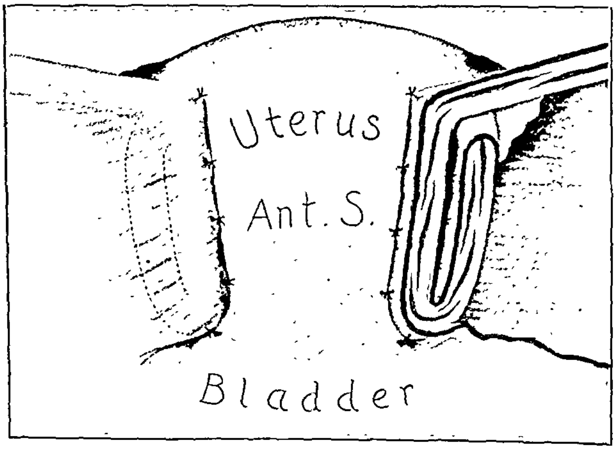

Fig. 7.—Scheme of second step of operation shown in perspective on the left and in sectional view of the right.

I have personally performed 272 operations for retrodisplacements of the uterus by using this method. In twelve other cases continuous sutures were used all through, in an attempt to shorten the operation. After the twelve operations by the continuous method, four patients relapsed very soon and the other eight have not been heard from. After the 272 operations by the method described, using the interrupted sutures, I have heard of only two cases of recurrence; one after an operation for prolapsus in an old woman, another in which the operation was followed by volvulus, requiring a secondary operation and drainage. In fact, I have not examined these patients and do not know that recurrence has taken place. I have learned directly of eighteen women who have borne children since. In these, no dystocia has been noticed. I have personally examined four of the eighteen after labor and found the uterus in good position. The other fourteen have been examined by the family physician and the uterus has been found in good position. Of the 272 patients five have required a later operation for other diseased conditions in the lower abdomen, which has given an opportunity to observe the condition following the operation. In all five cases, the broad ligament was found holding the uterus in perfect position. The ligament was normal except that the anterior fold seemed slightly thicker. The round ligaments, one of which in all cases, and both of which in some cases, had been attenuated to the size of a very small cord, had regained their normal size

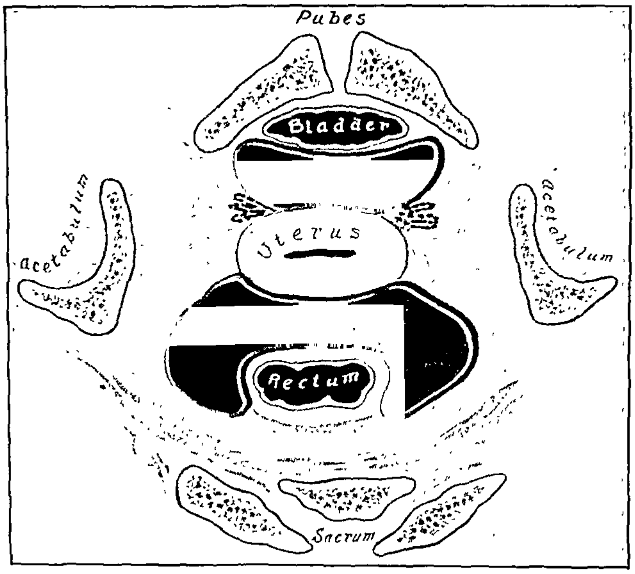

Fig. 6.—Sectional view, showing end-results of plication operation. Dotted lines represent obliterated peritoneal areas.

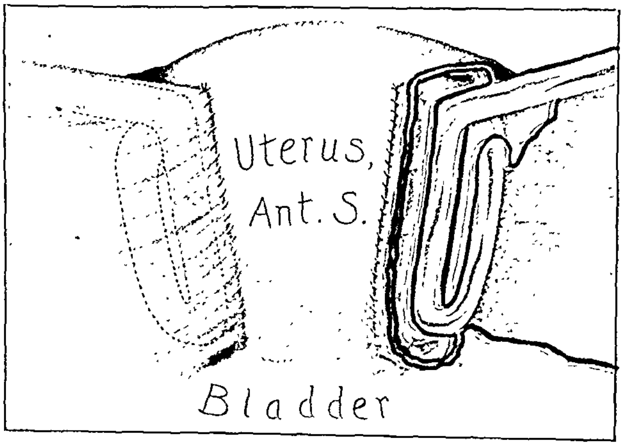

Fig. 8.—Scheme of third step shown in perspective on the left and sectional view on the right.

and their normal position under the peritoneum and, in fact, had reestablished relations that were normal in every respect. Therefore I feel justified in presenting Figures 7 to 11 to illustrate the manner in which the round ligament unquestionably restores itself to its normal condition. I may here state that this is easily proved by making a cloth uterus and broad ligaments in which a round ligament made of an elastic cord is placed. By folding the round ligament and the broad ligament on the surface of the cloth uterus, as I have done in the operation, taking care to glue the cloth broad ligament to the surface of the cloth uterus, thus corresponding to the blending of the peritoneum; by using sutures which can be either withdrawn or cut, in order to free the elastic cord, it will be found that the cord will slip out from between the layers of the cloth broad ligament, producing exactly the same condition I have found in my cases, minus the blending of the adjacent peritoneal surfaces which obliterates all peritoneal spaces.

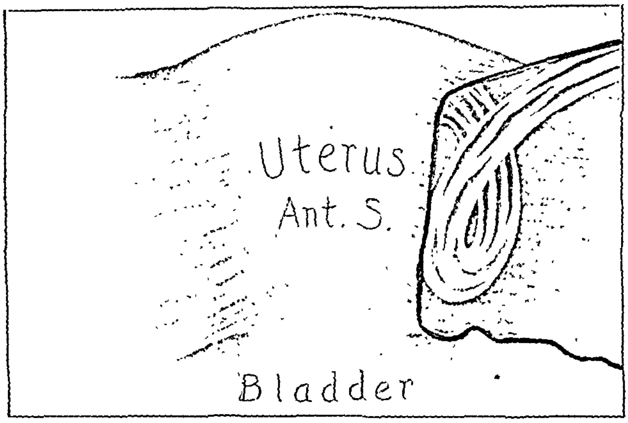

Fig. 9.—Round ligament freeing itself and straightening under the peritoneum.

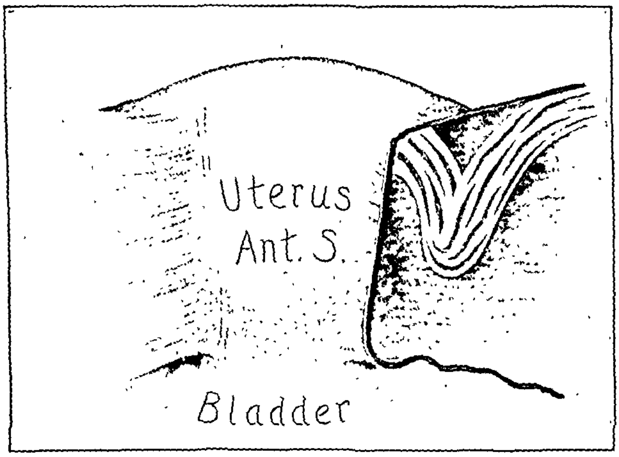

Fig. 10.—Final step; round ligament straightening itself under the peritoneum of the round ligament.

Figure 7 shows the second step of the operation in perspective on one side and a sectional view of the same step of the operation on the other side. In the sectional view, representing the round ligament as being very much attenuated, the muscle cells are few.

Figure 8 shows the completed operation in perspective on one side and a sectional view of the completed operation on the other side with the same attenuated ligaments.

Figure 9 shows a broad ligament some weeks after operation on one side, and on the other side, the theory of the gradual freeing of the round ligament under the broad ligament as represented. The round ligament has had time to rest, the catgut sutures have been partially absorbed, the muscle fibers, performing their normal function of contraction, are coming closer together, thereby straightening the ligament out under the peritoneum.

Figure 10 is an extension of the same process, in which the round ligament is becoming straighter and shorter and the muscle fibers are becoming correspondingly *more numerous*.

Figure 11 shows the round ligament straightened out under the broad ligament and the establishment of a normal cord:

In this operation, as proved by results seen afterward, all the requirements of the anatomic and surgical principles set forth have been fulfilled. The broad ligament, which is the principal support of the uterus, has been shortened, and the action of the round ligament has not been permanently hampered but on the contrary, it has been permitted to regain its normal strength so that while the uterus is supported constantly by the broad ligament, it may also be poised to suit the changing positions of the body by the restored round ligament.

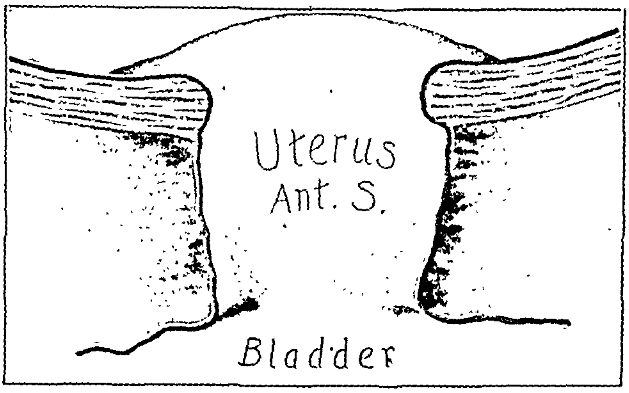

Fig. 11.—Round ligament restored to normal position under the peritoneum.

Dr. W. B. Holden, my office neighbor, has done this operation more than 50 times without recurrence as far as he knows, and states, in a personal communication that the results are so satisfying that he never thinks of doing any other operation for retroversion of the uterus.

Dr. Suttner of Walla Walla, Wash., has done the operation regularly for some time (more than 150 operations), and patients have been pleased with it. The observations of all these operators, taken with my own, seem to indicate that the comfort to the patient is greater in this operation than in any other operation having the same object. The absence of the backache, which is represented as following operations which permanently fix the round ligament, is a very noticeable feature. Previous to the development of this operation, I had done approximately 200 Kelley operations with very good success as far as holding is concerned. The anatomic condition left after the operation was unsatisfactory in a considerable number of cases. Labor was difficult in a proportion of the patients.

In some cases habitual abortion occurred and a very large percentage of the patients complained of the old backaches, pulling on the abdomen, and a train of nervous symptoms which were even worse than the original. I may here state that I followed Suttner's lead in performing the plication operation in cases in which the uterus was already pregnant. Suttner deliberately did this plication operation in two cases at the second month of pregnancy in order to prevent abortion, which had previously been habitual about the third month as a result of the displaced uterus. In each instance, the child went on to full term and was born without difficulty. In one of my cases the patient was pregnant at the time of operation but did not know it. She went on to full term and was delivered. In another case, the patient, an unmarried woman, was found to be pregnant two months. The plication operation was done regardless of the condition. The wedding ceremony was performed the night after the operation. Pregnancy went on to full term and the child is now several months old. I presume that these pregnancies would continue with any of the other round ligament operations in just the same way, but I mention these cases to show that while this operation seems to comprise a good deal of surgery the traumatism must necessarily be of a superficial nature.

Corbett Building.

THE RELATION OF THE TEETH TO THE DEVELOPMENT OF THE JAWS AND FACE *

FREDERICK B. NOYES, B.A., D.D.S.
CHICAGO

In considering the structure of all multicellular organisms, and, in fact, in the very simplest aggregations of cells into tissues, it becomes apparent that there are two essential parts: the cells, which are the vital units; and intercellular substances, which give the physical characteristics to the tissue. The latter are always material which have been produced by the vital activity of the protoplasm, but which are not living matter; that is, they have no vital properties but are dependent on the protoplasm for formation and for the maintenance of their chemical character. In tissues, the vital characteristics are given to the protoplasm by the cells, the physical characteristics by the intercellular substance. Protoplasm, which has long since been recognized as the physical basis of life, is always of a soft and more or less gelatinous character, and of it alone, nothing resembling a highly organized creature could be formed. Other substances therefore have been produced by the protoplasm for the purposes of protection, support, rigidity and strength. Always the protoplasm is the active agent by whose chemical activity the protecting or supporting substance is formed. There are two types of formation. The first consists of cells which develop substances inside of the protoplasm to give rigidity or strength This class is illustrated by certain cells found in the lobster and other similar creatures, but this type of supporting cell has apparently proved insufficient or not adapted to higher developed forms. In the other type the protoplasm develops, on its surface or about it, formed materials which give protection and support, either in the form of rigidity, or strength, or both. The simplest example of this class is found in the cell walls of plants. It is important to note that the necessity for physical properties which are impossible for protoplasm itself is the cause of the appearance of intercellular substances.

In the very beginning of evolution, therefore, physical conditions and necessities led to the formation of substances by the protoplasm which gave it support and protection. In the higher animals certain tissues have developed such materials for the support and assistance of the more vitally active tissue, and therefore have been called the supporting or connective tissues. In these tissues the cells form and maintain materials which give qualities of strength and rigidity to the tissue and enable it to serve as the framework of the organism. The intercellular substances have been called into existence to meet physical and mechanical conditions. The connective tissues are the most adaptable of all tissues and respond most quickly to conditions of environment. The mutation of these tissues or their power to change from one variety to another is their most striking characteristic. The cells control the intercellular substances to form more, to destroy what has been formed, or to change its character; and their activities are excited in response to physical or mechanical conditions.

In the process of growth and function they are continually changing. Embryonal connective tissue develops into fibrous tissue, fibrous tissue into cartilage, and cartilage into bone. In bone, which is the highest form of tissue for rigidity, mutation is the most striking characteristic. It may be formed from fibrous tissue directly or through the medium of cartilage, and it always retains a large amount of cellular elements which can at any time destroy and reform the intercellular substances. In fact, bone should always be considered as a fibrous tissue which has developed in itself intercellular substances of a different sort to meet special mechanical conditions. In other words, there is always in contact with the calcified intercellular substance of bone, on its surface and in spaces within it, undifferentiated connective tissue, the cells of which are capable of developing into any sort of connective tissue cells. It is the presence of these embryonal cells which makes bone a plastic tissue. There are three varieties of bone: subperiosteal, Haversian system, and cancelous. In other papers I have emphasized the characteristics of these classes, and I assume that all are familiar with the minute structure of each. At present I wish to emphasize the transformation from one variety to another that occur in growth and which are in fact going on continually throughout life under the influence of mechanical conditions.

In bone showing subperiosteal bone on the surface, a portion of compact or Haversian system bone, and cancelous bone beyond, if this bone is growing in one direction subperiosteal bone will be laid down in layers parallel with the surface. When a certain thickness has been formed large spaces or canals will be absorbed out of it, forming what are known as Haversian spaces and around these concentric layers will be laid down, converting them into Haversian systems. Only enough compact bone is formed to meet the mechanical stress of the position. As soon as an excess has been formed absorption begins in the Haversian canals, cutting out large spaces around which a few lamellæ are formed, producing cancelous bone. If the bone is growing in the opposite direction concentric layers will be laid down around the spaces of the cancelous bone, making it more compact and large absorptions will occur under the periosteum, cutting deep into the Haversian system bone, after which a few layers of subperiosteal bone will be

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* Read in the Section on Stomatology of the American Medical Association, Sixty-First Annual Session, at St. Louis, June, 1910.

added to the surface. In such absorptions the entire surface is not attacked at one time, but in one area there will be a large absorption while in an adjoining there is a slight rebuilding.

Figure 1 illustrates the first type. It is a section of the buccal cortical plate of the mandible of a sheep. On the surface is shown a little subperiosteal bone in which only one or two Haversian systems have been formed. Next is seen the Haversian system bone which has been destroyed from within and rebuilt with bone of more open structure. The first type of growth occurs in the direction toward which force is being exerted; the second type occurs on the surface from which force is being exerted. It may be stated as a generalization that the bone is more dense, but less in amount on the side toward which force is exerted, and greater in amount, but less dense on the side from which force is exerted. These generalizations become important in orthodontia. These conditions are illustrated in Figures 2 and 3. Growth has been progressing toward the buccal side. In other words that is the direction toward which force has been exerted, and the compact bone is less in amount, more dense in structure, while on the lingual side it is greater in amount but less dense in structure.

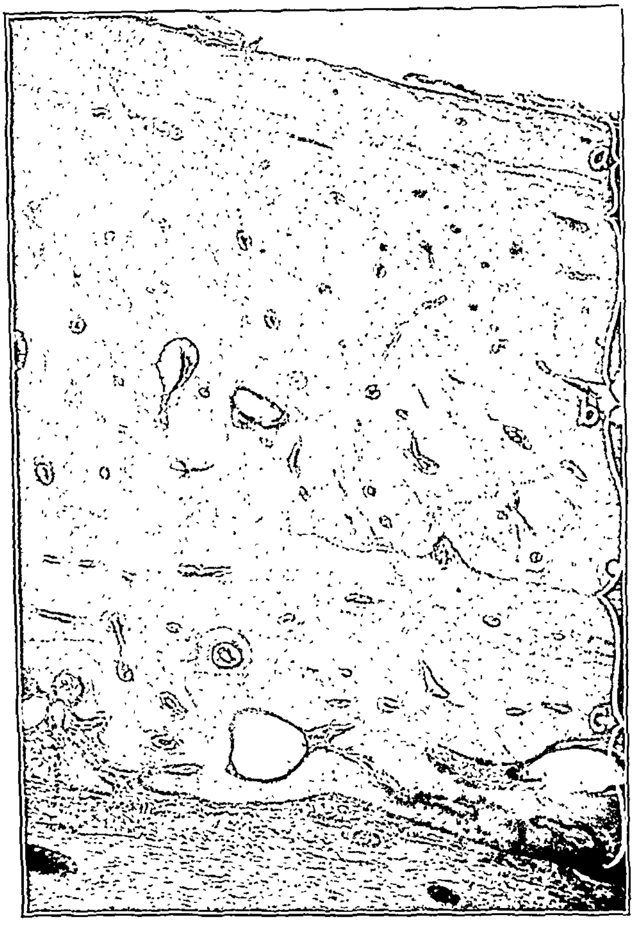

Fig. 1.—Buccal cortical plate of mandible of sheep; a, subperiosteal bone; b, Haversian system bone; c, rebuilt bone of more cancelous character.

Professor Cope, in a long article,[1] elaborates the idea that the bones have developed in response to mechanical conditions, that the form, size and structure are the expression of adaptation to mechanical environment. He treats the subject entirely from the evolutionary standpoint. If we consider the subject from the standpoint of the development of the individual we are led to similar conclusions, and become more and more impressed with the fact that bone is formed in response to mechanical stimuli. This is true of the bone as an organ, and equally true of the minute structure within it.

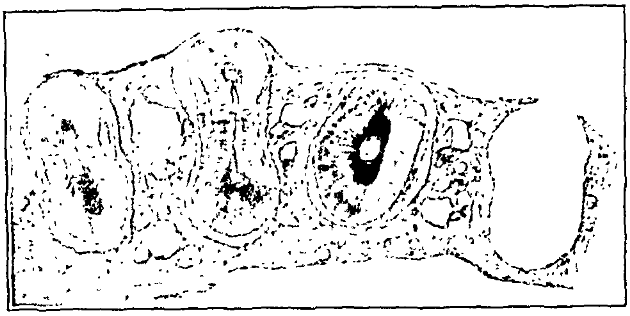

Fig. 2.—Transverse section through the alveolar process and the roots of the first and second bicuspids and first molar teeth; the buccal plate above the lingual plate below; the alveolus of the first bicuspid, to the right, empty.

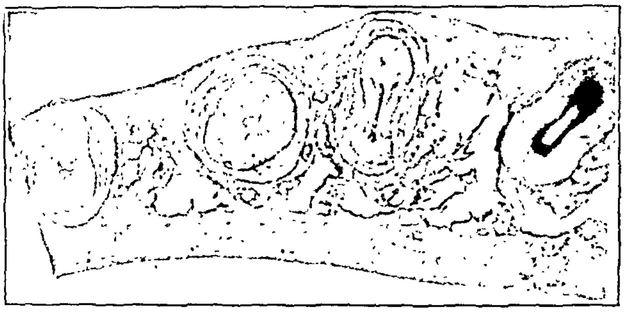

Fig. 3.—Transverse section deeper in the process; the buccal plate above, the lingual plate below, the first bicuspid to the left.

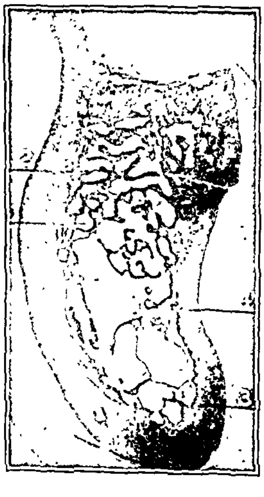

Fig. 4.—Section of human mandible between second and third molars.

Some years ago, Walkoff, in an elaborate study of the jaws by radiographs, showed that the direction and character of the spicules of cancelous bone within the substance of the bone are not the result of chance, but that their direction and arrangement were determined by the forces to which the compact bone of the cortical plates was subjected. If we examine sections of the mandible we shall find that not only is its general form determined by the mechanical conditions to which it has been subjected, but the cancelous bone is being continually reformed to adjust it to the stresses received on its surfaces.

Figure 4 is a decalcified section of a human mandible which was made to study the arrangement of the lamellæ as a record of the growth of bone. The subperiosteal layers are very few at almost all parts of the section. The cancelous bone in the alveolar region has been built and rebuilt to support the cribriform plates forming the walls of the alveoli for the roots of the molars during their movements in development, and the record of this rebuilding is left in the arrangement of the lamellæ.

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[1] Cope, E. D.: The Mechanical Causes of the Development of the Hard Parts of the Mammalia, Jour. Morphol., 1888, iii.

Figure 5 shows a field from position 1, Figure 4. Notice how plates have been cut off and built on with layers in a new direction and how additions have been made at different times.

Figure 6 is taken from position 2, Figure 4. These spicules are a regular patchwork. At *a* is a bit of old spicule which ran in an entirely different direction, and there is another at *b*. These changes have not been the result of chance, but each new formation has been the response to some mechanical stimulus received through the substance of the bone.

Figure 7 is from 3, Figure 4, and shows the rebuilding that occurs during growth. There are large areas showing lamellæ which were at one time parallel with the surface in which comparatively few Haversian systems have been formed. This was probably during the most active period of growth, the later subperiosteal layers being much more completely replaced by Haversian systems.

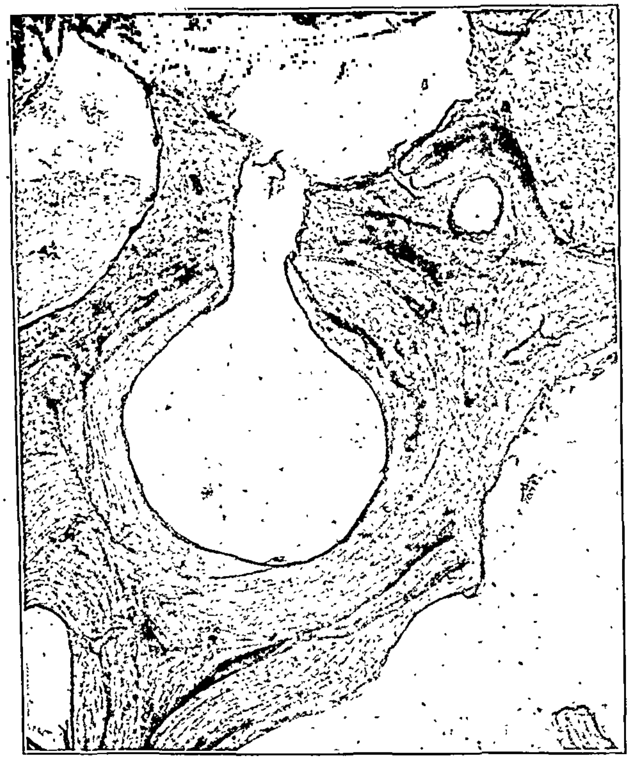
Fig. 5.—Cancelous bone from 1 in Figure 4, showing the rebuilding of the spicules and addition of layers at different times.

Figure 8, a field at 4 of Figure 4, shows wonderfully well the outline of the absorption spaces that have been rebuilt and at several places on the surface the marks of removal of bone by the periosteum, and in one or two places slight rebuildings.

In the growth of the jaws, therefore, bone is formed on the surface by the periosteum, the peridental membranes, and the articular cartilage, and is absorbed and rebuilt within, adapting it to all of its mechanical influences. We may say, therefore, that the adult bones are the result of all the mechanical conditions to which they have been subjected.

It would be impossible within the limits of this paper to consider in detail all of the forces which exert mechanical influences on the jaws. Probably the first and most important is the force exerted by the growth of organs enclosed in, or surrounded by the bones. This includes the growth of the tongue and the muscles surrounded by the jaws, and the muscles which lie against their surfaces, but more important, the growth of the teeth which are enclosed in the substance of the bone. Not much is known about the nature or the amount of the force generated by the growth or multiplication of cells. More has been done in regard to the growth of plant than animal cells but our knowledge is very meager. The force is probably very considerable, but acting through very small space. The growing roots of plants move stones, and some experiments have been made to determine the weight that could be lifted by the growth of a rootlet. The phenomena of osmotic pressure are involved in the problem and this involves the question of blood-pressure. There are some analogies

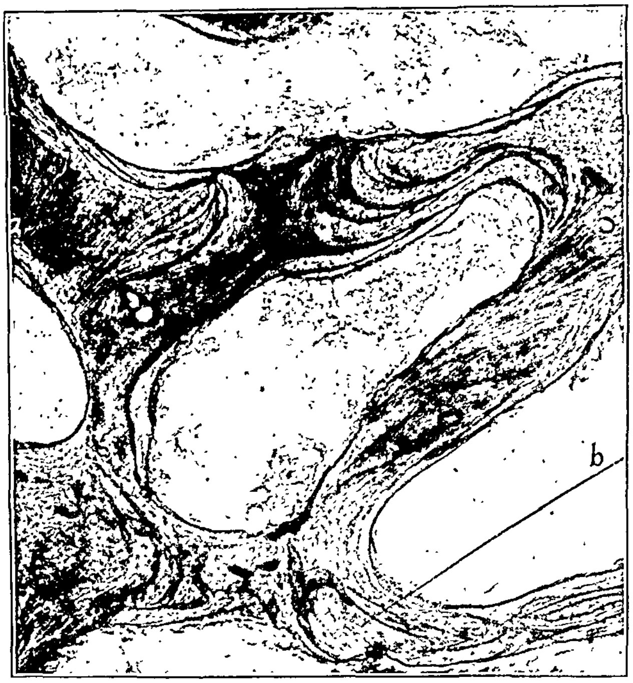

Fig. 6.—Cancelous bone from 2 of Figure 4; *a* and *b*, bits of old spicules.

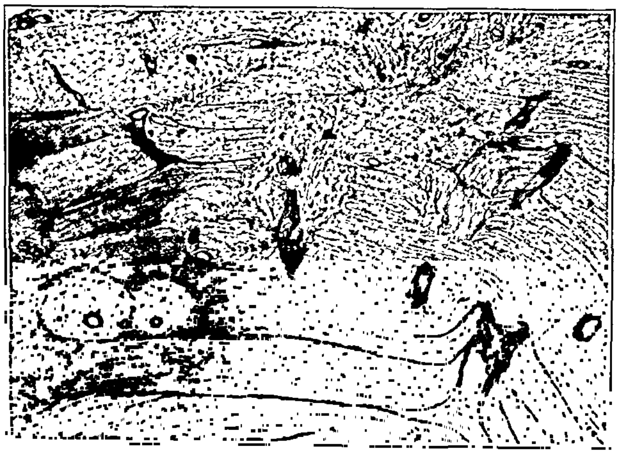
Fig. 7.—Compact bone from 3 of Figure 4, showing formation of Haversian systems in old subperiosteal bone.

between the force exerted by the growth of protoplasm and that generated by the expansion of wood fiber, by the absorption of water, but the whole subject is too deeply complicated for any such superficial analysis. Whatever may be the explanation, the growth and the multiplication of cells produces very considerable force; and the growth of the teeth within the substance of the jaw produces mechanical conditions which are very important in the development of the bones of the face.

In a paper recently read before the Illinois State Dental Society I presented a more elaborate analysis of this topic, only the more important phases of which can be given here. While the temporary teeth are erupting they are continually being carried occlusally by the growth of their roots, the alveolar process growing up around them. As the roots of the anterior teeth are completed, they are still pushed forward, upward and outward, by the development of those distal to them. As soon as the temporary dentition is complete, the temporary teeth—alveolar process and all—are forced to move, by the development of the permanent teeth, which lie in crypts below them. In the paper referred to, the relation of these crypts to the roots of the temporary teeth was examined in detail; here it is sufficient to say that the growth of the permanent incisors and cuspids first causes the development between the median line and the region of the mental foramen and later the development of the bicuspids and second and third molars cause the growth which increases the distance from the mental foramen to the ramus. The development of the long roots of these teeth will carry the temporary teeth, alveolar process and all, downward, forward and outward in the upper jaw, upward, forward and outward in the lower. If we examine sections of the alveolar process about the temporary teeth we shall see that this growth is accomplished by the formation of subperiosteal bone on the outer and inner surfaces, and subperidental bone at the margin of the process and around the alveolar.

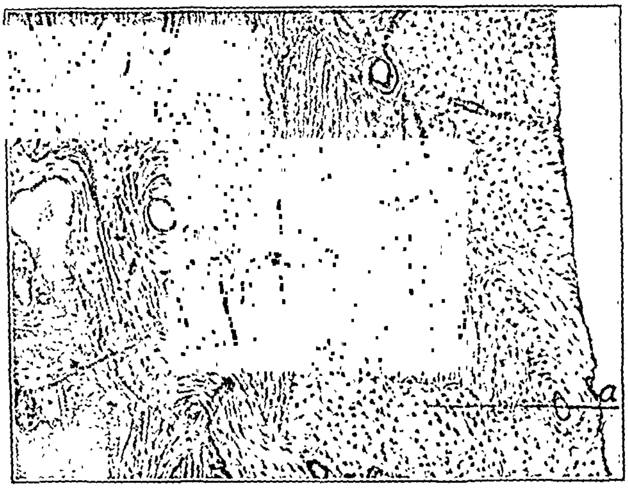

Fig. 8.—Compact bone from 4 of Figure 4; *a*, a rebuilt portion

In the production of the alveolar process the peridental membrane and the periosteum work together. As soon as a certain amount of solid layers have been formed, large absorptions occur, which are partly rebuilt by concentric or Haversian system lamellæ, which may be again partly rebuilt and destroyed. The important factor is that the teeth are moving in an occlusal direction and the bone is being built and rebuilt under the influence of the mechanical conditions, so that at the later stages of their use the bone of the temporary alveolar process shows an immense number of formations at different periods. The growth of the permanent tooth does not cause absorptions simply of the bone forming the immediate wall of its crypt but osteoclasts appear all through the bone enlarging the spaces and opening up the structure. Apparently the bone is weakened in this way until what is left can spring under the force and then a new formation is begun to strengthen the tissue.

I have been especially impressed with the way the force exerted by the growth of the teeth in the crypt is responded to all through the substance of the bone covering them or in fact throughout the jaw. The result of these tissue changes is that when the temporary teeth are finally pushed off there is only a remnant of the temporary alveolar process left, and to this additions are at once started to attach the erupting permanent tooth. The influence of the growth of unerupted teeth continues to cause growth of bone and movements of the previously erupted teeth until the third molars have taken their places. During all of this period the action of muscles has been reacting on the bone. First, the muscles of mastication attached to the ramus and the coronoid process rest against the digastrics, geniohyoids and geniohyoglossi attached to the anterior part, the teeth and especially the first molars acting as the fulcrum. It is apparent, therefore, that if the first molars are in abnormal relation the position of the fulcrum is shifted, and the balance of the forces is disturbed, and it is very apparent that if the lower first molars are mesial of their normal relation the result is an overdevelopment of the mandible; if they are distal there is an underdevelopment. This is the necessary result of the changed distribution of forces in response to which bone is formed.

The effect of the function of swallowing, I believe, has not been appreciated. Every normal person swallows about once every two minutes. In each set of muscular contractions which constitute the act there is a distinct and considerable thrust against the lingual surfaces of the bones and the teeth. Every thrust is a stimulus to the connective tissue cells. The mouth if normally closed is entirely occupied by the tongue, and the base of the tongue is held against the palate and the pillars of the fauces in such a way that a partial vacuum is produced, which assists in the support of the weight of the mandible. This constitutes a *mechanical impulse to* the growth of bone which is very important in lowering the roof of the mouth and consequently increasing the depth of the nasal cavity from above downward.

The normal action of the lips and cheeks is a most important factor, as we are reminded by the disturbance of growth caused by abnormal function of these muscles. Finally, to sum up the entire matter, I have endeavored to show that both phylogenetically and ontogenetically, bone is produced in response to mechanical stimuli; that in bone formation living cells produce formed material to give strength and that the vital activity of these cells is excited in response to mechanical influences. We have examined some of the many sources of force or energy which affect the vital activity of the cells, and as a result of these considerations we may say that the adult bones are the result of all the forces exerted on them and distributed through their substance by the occlusion of the teeth. If the occlusion is normal the forces are perfectly balanced, and a harmonious and symmetrical development is the result. In proportion as the occlusion deviates from the normal there is a disturbance of the harmony of development. The preservation of normal occlusion is necessary therefore not only for the proper mastication of food, but for the proper development of the face and proper function of respiration and swallowing.

ABSTRACT OF DISCUSSION

Dr. M. H. Fletcher, Cincinnati: I have done some of this class of work, and I have derived an enormous amount of pleasure and profit out of it. Those who have tried to do work of this character know that it entails an enormous amount of labor. A filling which may be too high, or the moving of teeth, or the treatment of the diseases of the sockets, and in fact almost everything we do in the matter of treatment of live tissue, brings these laws into play. I have been especially interested lately in the growth and repair of the cementum, and in several places Dr. Noyes has shown features that are especially instructive to me. I should like to see specimens more in detail as to the growth of cementum—where it begins and where it ends. The tissues lying about the roots of the teeth are subject to disease and repair to a marked degree, and we must understand these laws that we may intelligently treat diseases of the bones and teeth.

Dr. B. E. Lischer, St. Louis: I yield to none in my appreciation of the valuable contribution to dental science which Dr. Noyes has given us. I question one point, however, on which he laid much stress while explaining some of the slides on the screen. I refer to the theory of the elongation of roots and their probable rôle as a mechanical factor in the dentitional process. It was advocated many years ago by Wedl and since found wanting. Other theories proposed as a plausible explanation of the mechanism of eruption are the pressure theory (pressure of succedaneous teeth), the alveolar theory of Albrecht, the granular theory of Baume, the pulp theory of Wallisch, the functional theory of Robin and the blood-pressure theory of Constant, also as modified by Tomes. The latter is the only accepted one. The objections to the theory of the elongation of roots are as follows: (a) many impacted teeth with fully developed roots never erupt; (b) in the crocodile the developing teeth travel sideways for a considerable distance at right angles to the long axes of the roots; (c) most teeth in the course of eruption travel a greater distance that the entire length of their root or roots; (d) many teeth are erupted before their roots are fully formed.

Dr. Stewart L. McCurdy, Pittsburg: These hypertrophies of bone come from inflammatory conditions, from irritation, or from the projection of bone into the tissues or into the muscles following accident. The presence of syphilis stimulates not only hyperostosis but also endosteitis, and in addition the growth of the entire shaft of the bone, the entire bone becomes involved. Then in another instance diminished growth of the shaft occurs, as in achondroplasia, yet the epiphyses grow just as though the shaft were normal. In other words, the epiphyses are supplied by blood-vessels from entirely different sources than the shaft. Again, there may be hyperostosis of the epiphysis of a long bone, the shaft remaining perfectly normal. This entire subject of growth and development of bone is much clearer in my mind since I have heard Dr. Noyes' paper. The architecture and the reconstruction of the bone bring to my mind most strongly the law of conservation. As nearly as I can repeat that law, it is: Bone is deposited in the various parts of the body as it is needed; then Nature immediately begins to reconstruct that bone, and when it is not needed absorption takes place to diminish the bone to the normal size to perform its function. This is Wolf's law.

Dr. Eugene S. Talbot, Chicago: I think that Dr. Noyes has demonstrated that these forms of absorption are due to irritation. The point which Dr. Lischer makes is rather in Dr. Noyes' favor. All these conditions he mentions act as stimulants to bone development and assist in bone absorption and regeneration. In animals, the animal is either losing the function of bone, or he is developing rudimentary structures, so that cannot be considered here. Dr. Noyes has shown absorption due to irritation. There are, however, two points on which he did not touch, and which Dr. McCurdy mentioned in regard to the bone development and absorption, and that is the nervous system. In the case of *arrest of development* we have arrest in ontogeny, due either to some condition *in utero* or to disease, such as scarlet fever, pneumonia, or any other constitutional disease early in life. On the other hand, large jaws, those measuring 2½ inches in diameter, are due to want of resistance in phylogeny; in other words, arrest of development in phylogeny from the lower animals, such as the anthropoid apes, etc. In that case the large developed bones take the line at least resistance toward the lower vertebrates.

Dr. M. H. Fletcher, Cincinnati: I did not discuss the idea of pressure in the eruption of teeth or any other force, because I leave that just as I leave the differentiation of cell life in any other part of the body. If anyone can tell why a blade of grass grows, or why union of the male and female cell finally produces the epiblast, the mesoblast and the hypoblast, or why the presence of the dentin against the periosteum of the dental follicle induces a layer of cells which produces cementum then I think we are near to answering these questions. The practical feature I get from this is that under certain conditions Nature will reproduce certain tissue, and that in order to reproduce the new she must first carry away the old. Now it seems more important for us to know in what condition to put tissues in order to have repair, when there is broken-down tissue from disease, and the presentation of Dr. Noyes is a beautiful display of these laws.

Dr. Frederick Noyes, Chicago: I did not emphasize the elongations of the roots alone, and I did not emphasize the succedaneous teeth alone, or any one thing alone, but what I did try to state was that connective tissues are tissues of environment, and that they respond to mechanical stimuli, and that the elongation of the root necessarily produces a mechanical stimulus. It cannot help it. Consider for a moment the form of the root, the relation to the surrounding tissues and the fact that there is multiplication of cells in that space which produces force. So long as the root continues to grow it must exert a mechanical influence. The objections cited were that action and reaction are equally opposed in direction and if the resistance above the tooth is greater than the resistance at the apex, the apex will move and not the crown. I emphasized the fact that in the development of the tooth the floor of the crypt was pushed through the cancellous bone and did not react on the plate above until it reached the cortical plate at the lower border of the jaw, and the resistance was greater below than above and then the other end had to move.

Dr. McCurdy brought out several things which I could not go into, and, in particular, the idea that with mechanical stimulus without nourishment, growth is impossible. There may be mechanical stimulus, but if the blood-supply be cut off there can not be growth. I did not mention this because it is an inhibiting factor, not a developing factor. It is an important factor in the discussion, however.

Dr. Talbot referred to the influence of the nervous system, and that is a field which has important bearings in this connection. The point cited by Dr. McCurdy, that we would have changes throughout the substance of the bone beyond the region of the inflammation, indicates a nerve connection between the two, which, when a growth is set up in this position in response to mechanical stimulus, continues its action in a field beyond. In the same way, an irritation of one tooth may cause development of dentin within the pulp chambers of all the teeth within the same nerve-supply.

The most important thing which I wanted to bring out was that from a phylogenetic standpoint, from the beginning of evolution apparently connective tissues respond to mechanical conditions. Dr. Brooks stated as the greatest characteristic of life, the ability of adaptation to environment, and the characteristic of the connective tissue cell is to adapt itself to mechanical conditions. Following that idea through, we find that it is the mechanical influence to which the vital activity of the connective tissue cell responds with the changes in the structure of the tissue both in reconstruction and in production.

ELECTRIC ANALGESIA, AND ELECTRIC RESUSCITATION AFTER HEART FAILURE UNDER CHLOROFORM OR ELECTROCUTION*

LOUISE G. ROBINOVITCH, M.D.
NEW YORK

Electric analgesia was applied successfully for the first time, in animal, then in human surgery, by myself. Successful local application of this analgesia in human surgery is reported by Dr. M. M. Johnson.[1] I administered this analgesia. I have reported successful application of this analgesia in animal surgery and electric sleep in clinical work in all the issues of the *Journal of Mental Pathology,* commencing with 1906. The part of this paper treating of electric analgesia and sleep will be published elsewhere for reason of want of space here.

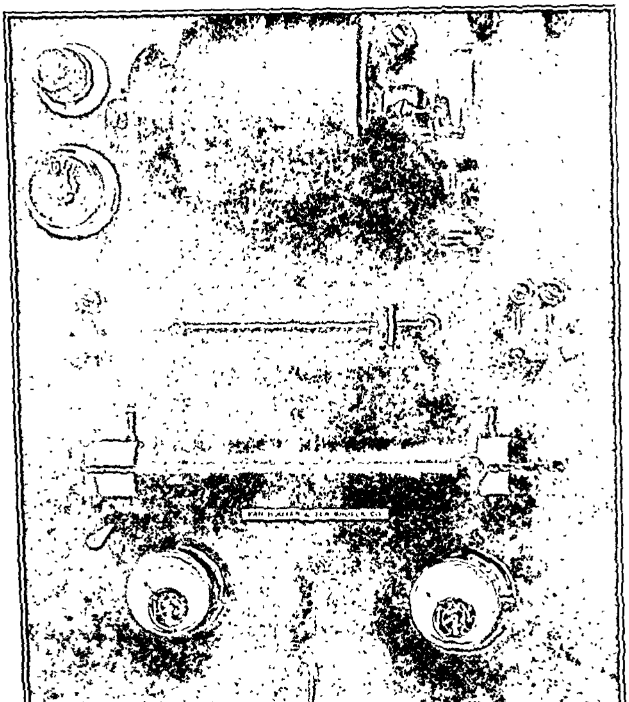

Fig. 1.—Author's model of wheel interrupter with fixed period of passage of current.

It is possible to resuscitate, by means of electric currents, subjects in a condition of apparent death caused by chloroform, ether, morphin, electrocution, etc. The first important researches into resuscitation of electrocuted subjects were made at about the same time by Professor Battelli[2] in Europe, and Dr. R. H. Cunningham, in this country.[3] Both authors used enormous currents for causing single electric shocks with which they attempted to restore life after ventricular tremulation had set in. Professor Battelli used 4,800 and 2,400 volts respectively, of alternating currents (amperage not stated). The means was not practical because one shock caused with such high voltage was all the heart could stand; a second shock killed the animal definitely, if it was not already dead.

Professors Leduc and Rouixeau[4] tried to resuscitate animals by means of direct interrupted currents of low *tension,* but they committed their predecessors' error of including the animal's head in the circuit. Besides, they used the lethal current for producing the shocks. The *method was useless in cases of dogs.*

While experimenting on the cerebral circulation during electric epilepsy[5] I saw, through a trephined opening in the skull, that every electric shock caused profound anemia of the brain at the time of the closure of the circuit. This led me to exclude the animal's head from the circuit during the rhythmic excitations, in order to exclude the medulla oblongata with the cardiac and respiratory centers and avoid any further anemia of these centers during apparent death, while the electric rhythmic excitations were being practiced. I also reduced the current to minimal doses for the first rhythmic excitations, because I found that useful cardiac and respiratory excitability was rapidly exhausted within the few minutes of apparent death. The maximum potential at the end of the resuscitation did not exceed 120 volts. Even this is too high voltage: in dogs it causes marked vagus stimulation so that the heart beats are very slow during a long period of time after resuscitation; and the wave form of the beat does not resemble the normal form. In ordinary severe cases, 70 volts is a good maximum potential.[6]

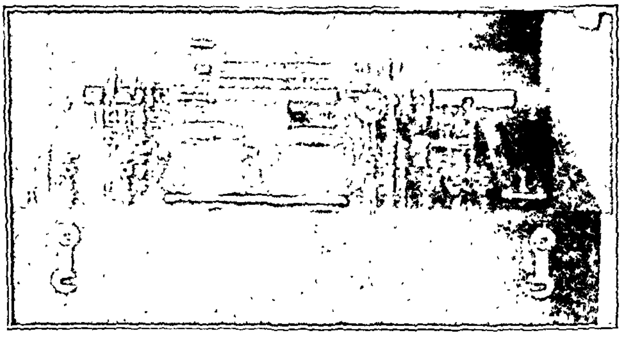

Fig. 2.—Author's triple interrupter of direct currents (20,000 to 40,000 interruptions). For resuscitation in ambulance service.

The method of resuscitation consists in causing artificial blood-pressure and respirations by means of rhythmic electric excitations, until normal function is restored. My choice electric current is the *one I use for causing* electric sleep and analgesia: a direct current, interrupted from 6,000 to 8,000 times per minute, period 1/10. Next in value is a direct current interrupted from 25,000 to 40,000 times per minute with my triple interrupter.[7] The last choice, and the one that I do not recommend if the first two can be had, is an induction current obtained with my special model of induction coil, an ordinary Dubois-Reymond coil, the special feature of which is the diameter of the wire of the coil, 1.2 mm. for the primary and 0.6 mm. for the secondary coil.[8] In cases of grave forms of apparent death, currents supplied by coils with fine wire will kill the animal, if it is not already dead.[9] Induction currents are alternating currents, the wave form of the current running above and below the base line. The physiologic effects of anodal and cathodal stimulations are distinctly different; the anodal stimulations are particularly dangerous in pulmonary and cardiac area when the current is obtained from a secondary coil, the wire of which is finer than 0.6 mm. Alternating and direct currents are deadly to cellular life, especially during apparent death.[10] But if nothing else can be had, rhythmic excitations may be practiced with these currents, rather than make no attempt to save life.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Johnson, M. M.: The Med. Rec., April 23, 1910.

[2] Battelli, F., and Prevost, J. L.: La mort par les courants électriques: courant alternatif à bas voltage et à haute tension, Jour. de physiol. et de path. gén., May, 1899.

[3] Cunningham, R. H.: The Cause of Death from Industrial Electric Currents, New York Med. Jour., 1899, lxx.

[4] Quoted by Robinovitch, Louise G., in Sommeil électrique épilepsie électrique et électrocution. Thèse, Paris, 1906.

[5] Robinovitch, Louise G.: General and Cerebral Blood-Pressure During an Attack of Electric Epilepsy, Jour. of Ment. Path., 1907, viii,, No. 3.

[6] Robinovitch, Louise G.: Method of Resuscitating Animals in a Condition of Cardiac and Respiratory Syncope Caused by Chloroform, Jour, Ment. Path., 1907; viii, No. 3. Method of Resuscitating Electrocuted Animals, Ibid; Méthode de rappel à la vie des animaux en syncope chloroformique et des animaux en mort apparente causée par l'électrocution. Effets différents de différents courants électriques Importance d'exclusion du circuit électrique de la tête de l'animal pendant les excitations rythmiques. Compt. rend. Soc. de biol., Feb. 1, 1908; De l'emploi des courants électriques pour le rappel à la vie, dans les cas de mort apparente causée par le chloroforme on par l'électrocution. Nécessité d'exclure du circuit la tête, pendant les excitations rythmiques. Expériences pratiquées sur le chien. Application clinque, Bull. Soc. clin. de méd. ment., November, 1908; Resuscitation of Subjects in a Condition of Apparent Death, etc., Jour. Ment. Path., 1909, viii, No. 4.

PROCEDURE

The dog's back is shaven in two places—on the back of the chest covering the pulmonary area and over the loins. The negative electrode is applied under the chest, the upper border reaching to the root of the neck. It is dangerous to use the positive pole under the chest. The positive electrode is applied over the loins. The electrodes measure 12 by 25 cm. for dogs of large size. They are made of zinc and are covered with a thick layer of absorbent cotton wet in a salt solution, 7 per 1,000. In man the chest electrode measures 25 by 30 cm.

Chloroforming is performed intensively, admitting little or no air and causing arrest of respiration and heart beats as quickly as possible. When breathing is no longer registered by the pneumograph and the manometer does not register any blood-pressure, the chloroforming is discontinued at once. An assistant catches hold of the animal's tongue with a tongue forceps, cleanses the mouth of mucus and pulls the tongue outward to allow free access of air during the rhythmic excitations.

The instrumentation with the preferred current is the same as that used for electric sleep. The operator now opens the switch of the cathode line, turns on a current of some 20 to 25 volts by means of the potentiameter. The circuit is then closed by means of the switch during a period of a fraction of a second. A deep inspiratory movement takes place. The mouth opens, the flabby, lifeless tongue that was lying on the roof of the mouth (the animal is on its back) contracts and is drawn inward; the fore paws are thrust upward with marked force; the posterior limbs are extended; the diaphragm is pushed downward and all the respiratory muscles enter into play. The chest is fully expanded and the pneumograph registers an ample artificial inspiration. The manometer may also register an artificial blood-pressure; but in cases of severe cardiac syncope the first few rhythmic excitations cause respiratory reaction without artificial blood-pressure. The operator breaks the circuit by opening the switch. This is followed by a deep expiratory movement, and all the muscles that entered into play to cause the artificial inspiration are now again flabby and lifeless; the expanded chest collapses and the pneumograph registers an ample expiration; the anterior paws fall one on each side of the body, the tongue falls to the roof of the mouth, lifeless, the mouth closes and the whole body is again lifeless and relaxed. The switch is kept open for a period of from one-half to one second, according to the gravity of the case. If the first voltage used caused an ample respiratory reaction and the manometer showed a momentary rise of blood-pressure, the succeeding rhythmic excitation is caused with the same voltage, but as a general rule it is necessary to increase the current to 30 volts or more; the excitations are now practiced with the increased current, the aim being to obtain ample respiratory reaction and blood-pressure with this minimal voltage within the shortest possible time, because useful cardiac excitability is quickly exhausted during apparent death. It is generally necessary to increase the current to 35, 40, 50, 60 and 70 volts within the course of three or more minutes of apparent death; the excitations are being practiced while the voltage is being increased. In favorable cases ample respiratory reaction and artificial blood-pressure are soon established, then accompanied by feeble spontaneous respiratory and cardiac reactions; these soon increase in amplitude; they are alternated with ample artificial reactions if necessary, taking care not to encroach on the spontaneous heart-beats and respirations, but rather precede or follow them. The operator judges by the spontaneous cardiac and respiratory reactions when it is advisable to discontinue the rhythmic excitations. If they are discontinued too soon death may set in after resuscitation, because in chloroform poisoning the blood is asphyxiated, dark; the feeble respirations and heart-beats may not be sufficient to cause useful oxygenation of the blood. But once ample spontaneous reactions are established the carotid artery is tied, the wound closed and the animal lives without showing any ill effects. I have kept such dogs during a period of one year and longer after resuscitation; they were in excellent condition.

LIMITATIONS

The period of apparent death is short; four minutes (including the time of the rhythmic excitations) is a long time, and five minutes is an exceedingly long period. But once resuscitated, the animal lives and shows no after-effects.

In chloroform poisoning death may take place in various ways: by respiratory arrest and final cardiac failure. This is the usual form; by primary cardiac failure;[11] this is a rare form in dogs, but quite familiar to surgeons in human beings, by simultaneous cardiac and respiratory arrest. In the majority of cases death sets in by respiratory paralysis, followed by cardiac failure. The accompanying tracing (Fig. 3) shows the usual form of apparent death from chloroform and the mode of resuscitation by means of electric rhythmic excitations with a gradually increasing current. The amperage cannot be read in these experiments because the closures are too short, but there is generally between 4 and 40 milliamperes, corresponding to the currents used—20 and 70 volts. This amperage is obtained on dogs sacrificed for this purpose, so that the closures may be prolonged.

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[7] Robinovitch, Louise G.: Triple Interrupter of Direct Currents for Resuscitation. Portable Model for Ambulance Service. Jour. Ment. Path., 1909, viii, No. 4.

[8] Robinovitch, Louise G.: Bobine à induction pour rappel à la vie, etc., Bull. Société clin. de méd. ment., November, 1908; Induction coil for Purposes of Resuscitation, Jour., Ment. Path., 1909, viii, No. 4.

[9] Robinovitch, Louise G.: Thesis cited (Note 4), p. 82 and trace 26

[10] Robinovitch, Louise G.: Different Effects of Various Electric Currents for Purposes of Resuscitation, etc., Jour. Ment. Path., 1909, viii, No. 4.

[11] The tracings of resuscitation after primary cardiac syncope from chloroform and ventricular tremulation caused by electrocution are omitted here for want of space.

Electrocuted dogs are resuscitated less easily than are chloroformed dogs. It is especially difficult to resuscitate when ventricular tremulation sets in, but the tracing that I present[11] shows that resuscitation is possible even in this condition.

All experimenters on this subject agree that artificial respiration and the Sylvester method are useless when ventricular tremulation sets in.[2, 3, 12] My method seems to give the best results known to-day for practical application, because it produces ample artificial blood-pressure as well as respiration.

APPLICATION IN ACCIDENTAL ELECTROCUTION

According to personal information given me by practical electricians both in Europe and this country, death does not always take place instantaneously in accidental electrocution with moderate industrial currents. The workingman generally touches the "live" wire with his hand or foot; contact is generally "bad," but it is sufficient to cause cardiac and respiratory paresis, from which the patient may die within from a few minutes to one-half hour after the accident. These are facts observed in daily accidents, regardless of some experimenters' claim that all is well if the patient's heart beats and he breathes when taken out of the circuit.

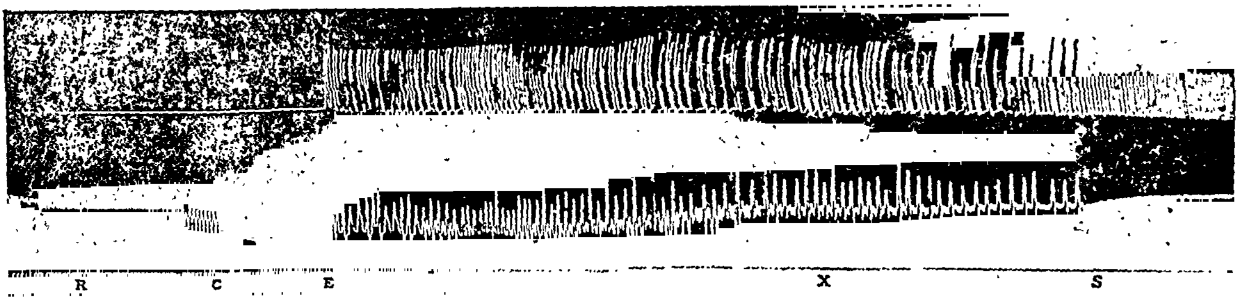

Fig. 3.—Tracings made during usual form of apparent death caused by intensive chloroforming in a dog. Upper tracing, respiration; second tracing, blood-pressure in carotid artery; third tracing, time; two lines indicate one second, during cardiac failure only. In rest of tracing: one line indicates one second. *R*, respiratory syncope; *C*, cardiac syncope; *E*, commencement of electric rhythmic excitations (direct current interrupted 8,000 times per minute, period 1/10); gradual increasing current from 20 to 65 volts. The ample respiratory and cardiac reactions are artificial, caused by the rhythmic excitations; then the small spontaneous heart-beats appear and alternate with the ample artificial ones. The cross shows where the first small spontaneous respiration appeared; ample artificial respirations alternate with the small spontaneous ones. *S*, synchronous respirations and heart-beats; final resuscitation.

The blood is asphyxiated, dark, after the slightest shock; a few rhythmic electric excitations will help to whip up the circulation and respiration if the excitations are practiced immediately following the accident or as soon as possible—before the patient is removed to a hospital. Without this help the patient may die when he is brought into the ward—some half hour after the accident. The blood remains asphyxiated even after resuscitation. This asphyxia may continue during many hours.

APPLICATION IN SURGERY

Direct and indirect cardiac massage has claimed its victims of chloroform poisoning in surgical work.[13] Dr. Crile's method of resuscitation is brilliant and admirable as regards the range of time during which the heart's action may be restored. Unfortunately, his method presents physiologic limitations; resuscitation after a period of seven minutes (in man), counting from the time of cardiac arrest, becomes useless, because the anemia of the brain during this time is fatal to the life of the brain cells; restoring heart action becomes useless from the point of view of restoration of life.

My method has the great advantage of simplicity; it does not necessitate opening the carotid artery and injecting a pint or so of solutions into the heart; it does not necessitate opening the trachea. The method may be applied immediately, when the first sign of cardiac or respiratory failure appears. Before an operation is commenced the electrodes may be put in their proper places under the patient; the chest electrode (25 by 30 cm., the loin electrode (12 by 25 cm.). The apparatus and chosen electric source should be in readiness before the operation is commenced.

The accompanying tracing (Fig. 3) shows that it is possible to resuscitate dogs after respiratory and cardiac function is no longer registered during a given period of time. It should not be assumed, however, that resuscitation is easy in all grave cases. There are not two subjects alike as regards physical vitality. For practical application in surgery the safest method is to commence practicing rhythmic electric excitations at the first sign of respiratory or cardiac failure. The surgeon does not fold his arms and wait until both the respiration and the heart have failed. In a series of experiments on dogs I commenced the rhythmic excitations a few seconds after respiratory syncope set in—in imitation of what a surgeon would do if he had a patient showing signs of syncope from chloroform or ether. Resuscitation was easy and complete in these experiments after a few rhythmic excitations. Resuscitation is more difficult, of course, when heart failure dominates the accident.

Considered in its proper light, the method should really serve as a preventive measure against grave forms of syncope, because a few rhythmic excitations, practiced in time, promptly oxygenate the blood by reason of the ample respiratory and cardiac reactions.

CLINICAL APPLICATION

November, 1908, I had occasion to revive a patient in a condition of profound syncope caused by chronic morphin poisoning. She was in Dr. Magnan's service, Ste. Anne Asylum, Paris. Dr. Magnan had revived her after she had had a first attack of syncope. A second attack

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[12] Rodenwaldt, Ernest: Ueber Verletzungen durch elektrische Starkstroeme vom gerichtsaerzlichen Standpunkte, Vrtljschr. f. gerichtl. Med. 3 Volge, xxxvii, 1.

[13] White, Charles S.: The Rôle of Heart Massage in Surgery, Surg., Gynec. and Obst., October, 1909.

set in within a few minutes; his assistants attempted to revive her by applying the Sylvester method and rhythmic traction of the tongue; this proved useless during a period of twenty minutes. The patient's face became "blue" from asphyxia. As is known in morphin poisoning, the respiratory center is paralyzed first, heart failure following, as is the case in ordinary asphyxia. The patient's respirations were about 3 or 4 per minute; the pulse was hardly perceptible and death seemed to be imminent. I applied electric rhythmic excitations; the patient revived definitely after a period of from twenty-five to thirty seconds.[8, 14]

OPERATION FOR RETRODISPLACEMENT OF THE UTERUS*

J. M. BALDY, M.D.
PHILADELPHIA

I am not greatly interested in the minute anatomy, the exact relative normal position of the organ and ligaments when I am faced with a displacement of the uterus. There are so many factors entering into the new position, and so much uncertainty as to which one or which combination causes the trouble that the question to be solved is rather, how the uterus can be held in such a position as to relieve the untoward symptoms and at the same time do no future damage. It matters little to us whether the means used are the natural ones or not. As a matter of fact, this is exactly what is done by each and every operator without exception, no matter how learnedly in the first instance he discusses the natural supports.

In further discussion I shall merely present the procedure, with which I have been experimenting for the past twelve years or so, which is, I think, fully established and amply justified by results, and which has taken the place of all other procedures in my practice for this class of cases.

The operation is not new. I first referred to it in a paper in 1902 after a few years' trial only. I have performed it almost constantly ever since, modifying it here and there at times as apparent difficulties arose and as it seemed necessary to overcome certain objections and certain faults in results; and I find at the present time a completed technic which is, I think, perfect.

Primarily the operation was done empirically with no idea of its true mechanics; and, this being so, it may readily be appreciated why apparent difficulties were hard to overcome and why changes were necessarily but blindly made from time to time. And yet, with it all, the general principles have remained the same from the first, viz., "the round ligaments brought through an opening made in the broad ligaments and united behind and to the uterus." The proposition is simple, the resulting advantages being manifest only when the procedure is properly carried out. The mechanism is plain, but has never to my knowledge been fully appreciated or fully pointed out, even by Webster, who has for the same length of time performed an operation with exactly the same principles but varying slightly in technic.

What is the position and condition of the uterus in the normal female pelvis? The fundus is bent slightly on the cervix and well forward of the direct axis of the pelvis, it is freely movable in all directions within certain well-defined limits, moving always with the cervix as a movable pivot. The whole organ is so high in the pelvis as to allow the top of the fundus to arise well above the iliopectineal lines of the bony pelvis. The ovaries are suspended correspondingly high and rest on the upper posterior portion of the broad ligaments. Any operation which does not take these conditions fully into consideration and which does not leave the organs approximately in these conditions and positions cannot be considered as ideal.

In all the confusion of anatomy, physiology and pathology, sight is lost of the fact that in the vast majority of cases there is a general relaxation and stretching of all the supports, often of the whole of the abdominal contents, and that the uterus as well as the ovaries lie down, as it were, in the pelvis limp and inert; the stretching of the ligaments is that of overstretched rubber, not that of hypertrophy of tissue which may subsequently undergo involution. The loss of support is a complex one, not merely the defect of one ligament; and the ratio of loss in each individual element of support is impossible of estimation, nor is it worth while to try to estimate it. The point is not to tell just what is the degree of relaxation of one of the uterosacral ligaments or both, what that of the right uterovesical ligament or both, or what that of the broad ligaments, and then to attempt to devise an operation for each and all these supposed defects, but to recognize the fact that before us is a group of organs which for some reason or other (it matters not what) are in a false position and being so are exposed to traumatism and other influences which will eventually or have already brought about a train of symptoms which it is very desirable to abate. These organs having lost the use of their natural supports, can we successfully substitute others to take their place? These are the lines on which I have worked most successfully and this is the basis of the accompanying operation. The round ligaments are used as artificial supports in an artificial manner to accomplish

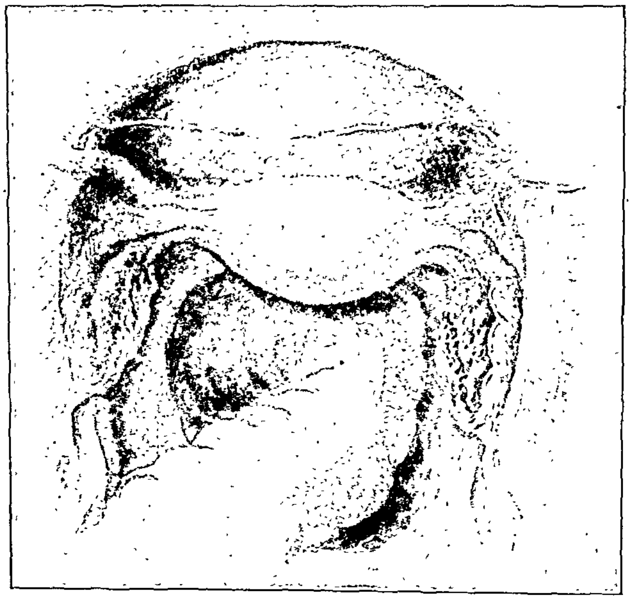

Fig. 1.—Uterus and appendages low in the pelvis and inclined backward. This is brought out more clearly by contrasting Figure 1 with Figure 2, in which one side is raised by the fingers well up above the iliopectineal lines while the opposite side remains low down in the pelvis.

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[14] Robinovitch, Louise G.: Resuscitation of a Woman in Profound Syncope Caused by Chronic Morphin Poisoning, Jour. Ment. Path., 1909, viii, No. 4.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

what Nature originally accomplished, viz., "a uterus with the fundus forward of the direct line of the axis of the pelvis, freely movable in all directions on the cervix as a movable pivot, the fundus raised up to and above the iliopectineal lines and the ovaries swung correspondingly high and free from all attachments on the posterior side of the broad ligaments." The simple procedure of drawing the round ligaments around the posterior side of the uterus, fastening them together as they meet, and then fastening them to the uterus itself at a selected point, fulfils perfectly each and every one of these indications.

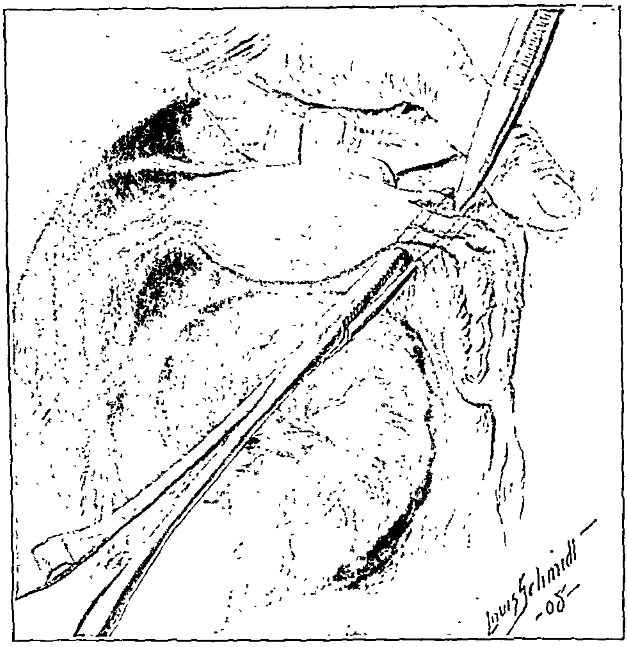


Fig. 2.—Fundus drawn well forward and away from the sigmoid flexure; hemostatic forceps perforating the broad ligament from behind to its anterior aspect, on which lies the round ligament. A pair of tissue forceps is grasping the round ligament and carrying it into the bite of the perforating hemostatic forceps.

A study of the accompanying illustrations, which were drawn at the operating-table, will render the operation and its results perfectly clear.

Contrast Figure 1 with Figure 5 and note the following points: the distance from the fundus to the sigmoid, the distance from the fundus to the pubis, the height of the fundus and ovaries as shown by the shadows and the iliopectineal lines; also the uterosacral ligaments.

It will readily be recognized how well forward of the axis of the pelvis the fundus is brought, how high it rises in the pelvis and how high are the ovaries and Fallopian tubes.

The question at once arises: What forces are brought into play to bring these organs into such perfect position and how do they act to retain them there?

The uterus is upheld by the encircling round ligaments (Fig. 5, *a-b*).

The ovaries and Fallopian tube are upheld by the passage of the round ligaments under the ovarian ligaments (Fig. 5, *d*).

The uterus is held forward by three forces, viz.:

1. The pressure of the intra-abdominal force on its posterior aspect.

2. The resistance of the encircling band of round ligaments (Figs. 7, 8, *B-C;* Fig. 5, *a-b*).

3. The pull forward and downward of the round ligaments at their attachment at the uterine cornua (Figs. 5 and 8, *b;* Fig. 9, *A*).

The whole structure is steadied by those portions of the round ligament running to the normal abdominal attachments (Fig. 8, *A-C;* Fig. 5, *a-c*).

It will be noted by reference to the illustrations (Fig. 2) that the forceps perforate the broad ligament close to the uterus and directly under the ovarian ligament. This is essential to the best results. A too low perforation in the broad ligament will give an unsatisfactory result. When the round ligaments are adjusted and brought snugly together posteriorly the ovarian ligament rests on each round ligament and, without so much as touching the ovary or Fallopian tube, always and with absolute certainty insures the proper and safe elevation of those organs. This is the only operation of which I know that secures this result; and if one recognizes the truth that it is often the prolapsed ovary which induces the symptoms, one must readily recognize the great advantage of this. When the uterus is thrown forward by almost any other operation, the ovary will usually rise in the pelvis with it, and the displacement of the two organs will be corrected at one and the same time. But every operator will recognize the fact that there is a certain large group in which the ovarian ligaments are relatively more stretched than those of the uterus, and in spite of the fundus being brought forward the ovaries are still prolapsed.

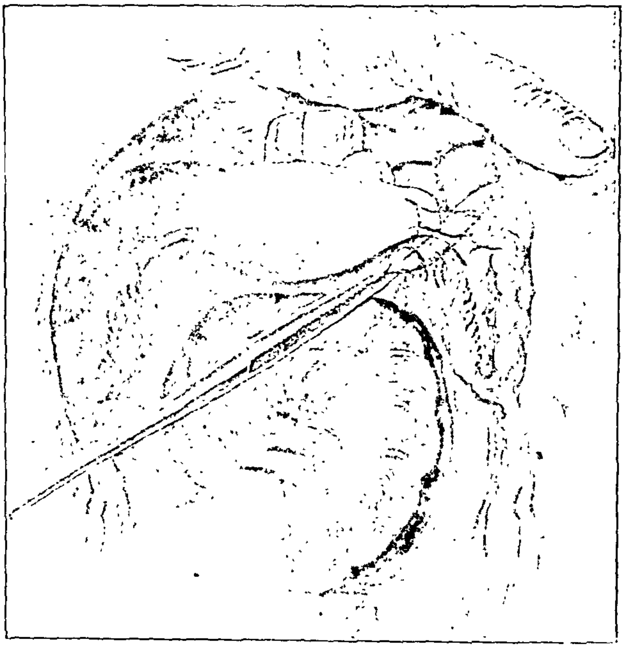


Fig. 3.—Round ligament in the grasp of the hemostatic forceps and in process of being drawn through the broad ligament to its posterior aspect.

The elevation of the ovaries is not accomplished by the general elevation of the uterus alone, but is materially aided by the rolling forward a quarter of a circle or more of the top of the broad ligament owing to the pull backward of the round ligament as it passes through the hole in the broad ligament, and the more the posterior pull of the round ligament the greater the tendency to the rolling forward of the top of the broad ligament and the consequent elevation of the ovary and Fallopian tube. I have in no case seen this occur to such an extent as in any way to endanger the patency of the tube. This whole mechanism is perfectly plain when seen in the living subject and is perfectly compatible with every known mechanical law.

The second fact accomplished is that of the elevation of the uterus and everything connected with it (Fig. 5). This is brought about, of course, on principles somewhat similar to those which would be involved in grasping a boy in one's arms and lifting him up. This requires fixed points from which to act. In the operation these points are the attachment of the round ligaments to the abdominal wall, their attachments to the fundus uteri, their attachment throughout their whole course through the broad ligaments, and, finally, the artificial attachments made by the operator as they are brought together behind the uterus and stitched to that organ.

It has been said in criticism that the round ligaments will be stretched by the weight put on them and that the weakest part of the ligament, viz., the abdominal wall end, is the part which carries the whole weight. Only ignorance of the mechanics and the fact that the critic has not performed the operation can justify this criticism. If it be contended and believed that the weight of the uterus and pelvic organs can be sustained by the longitudinal pull on the round ligaments, as is the case in the Gilliam, the Mayo, the Montgomery, the Alexander and every other modification of this class of pure suspension operations, in how utterly prejudiced a condition must be the mind which fails to grasp the fact that the downward pull of the organs against the lateral resistance of the full length of the ligament has only a fraction of the chance of overstretching which obtains in the longitudinal pull! In the operations of the class just mentioned, pure and simple suspension operations all of them, the full success of the result depends entirely on the suspension, not another element entering into the result. Furthermore, in these operations one and all the pelvic organs are lifted by sheer force into the abdominal cavity, there to be suspended in a position they were never intended to be, with lessened mobility and the full weight of the downward drag, permanently dependent on the integrity of the round ligaments alone.

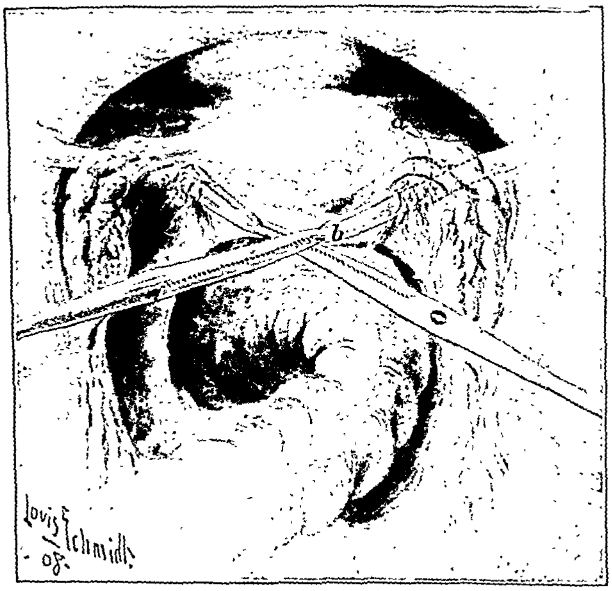


Fig. 4.—Both round ligaments drawn to the posterior portion of the broad ligament and approaching each other.

Contrast this condition with the operation under consideration. The uterus is lifted up and sustained by the encircling round ligaments as shown in Figures 6, 7 and 8. But only temporarily is this full force put on the round ligament. The fundus is thrown forward of its center of gravity, and as the patient lies on the operating-table with the abdomen open the fundus remains forward where the hand places it (Fig. 5). In this position the intra-abdominal force is exerted on the posterior aspect of the fundus, forcing it the further forward and the more surely holding it there. Gravity also aids this action.

What occurs when the patient arises? On certain movements the fundus has a tendency to go backward. Should this occur the intra-abdominal force would soon be exerted on the anterior aspect of the fundus and the uterus would be forced to a posterior position.

In studying the mechanism of the forces at play it is soon evident that two things prevent this accident.

1. The sling back of the uterus formed by the round ligaments properly adjusted meets the force temporarily urging the fundus posteriorly and obstructs that action.

2. The force of the fundus against the encircling round ligaments causes a pull on the ligaments at their attachments to the anterior uterine wall; and the harder this pull the greater the tendency to draw the top of the fundus forward and downward and to antagonize the tendency backward.

In other words, we have two forces acting against and neutralizing the efforts of the uterus to go backward, and it is impossible for the one to be brought into play without the other instantly operating to aid it.

Until some effort of the individual causes the situation to arise which attempts to force the uterus backward, the uterus remains quietly forward by combination of gravity and intra-abdominal force, and no tension whatever, other than that which is being exerted to uphold the uterus, is put on the round ligaments. In other words, for the most part there is no pressure exerted on the round ligament at all; it is only called on intermittently and temporarily to exert itself and when it does so at all it offers two points of resistance: in the obstruction posteriorly and in the pull forward and downward

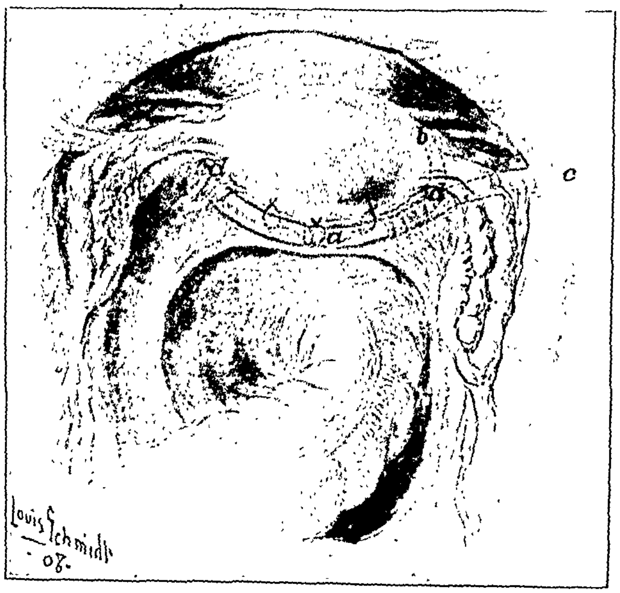


Fig. 5.—The two round ligaments united to each other, and, at two points, to the uterus itself; the operation is completed.

at the uterine cornua, thus subdividing the work put on it.

In all the suspension operations, without exception, the full weight of the pelvic organs are permanently dragging on the normal ligaments in the most vulnerable direction. Those parts of the round ligament running to the abdominal walls are only slightly affected in this operation; they act mostly as guy-ropes to the whole structure, as similar ropes act in holding up a derrick, and in this operation brought into action only intermittently and temporarily. There is therefore absolutely no chance of their becoming overstretched, as has been suggested. At one time in the process of the evolution of the operation I severed these ends and did not use them at all, so little did they seem to enter into the mechanism.

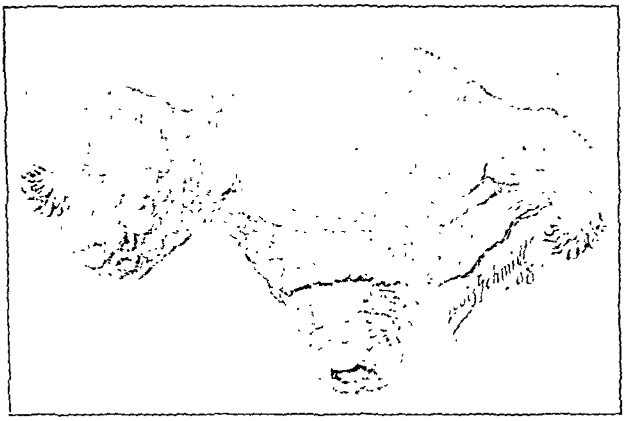
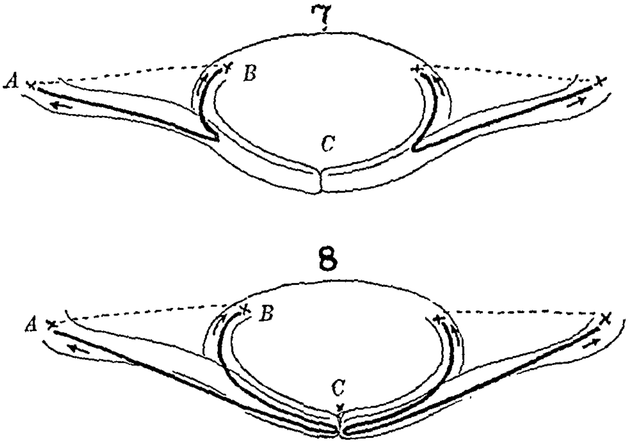


Fig. 6.—Uterus removed by amputation one year after operation for displacement, the symptoms not having been relieved. The round ligament can be plainly seen encircling the uterus and attached to that organ.



Figs. 7 and 8.—Diagrams showing the ligaments partially and completely drawn in place, as is done in the operation.

For a full understanding of these important forces, study Figure 9. This represents a lateral section of the uterus, broad ligament and appendages. Take the diagrammatic lines *A, B, C.* When force is exerted on *C* backward (as would be the case if the uterus were forced back against that point) the effect on *A* will be downward and forward, provided *B* be a fixed point. A mere glance at the diagram and the line of the forces makes this clear; it is purely a question of mechanics.

In the operation point *C* of the diagrammatic line is represented by the point of artificial attachment of the round ligaments on the posterior part of the uterus (Fig. 5, *a*).

A in the diagram is represented by the natural uterine attachments at the cornua of the uterus on its anterior face (Fig. 5, *b*).

B, in the diagram, is represented by the ovarian ligament, which is relatively a fixed point (Fig. 5, *d*).

Although the ovarian ligament is not an absolutely fixed point, yet it is sufficiently so to supply the point of fulcrum and produce the result pointed out.

The moment the uterus attempts to leave its forward position it meets the resistance of the obstruction of the encircling ligaments as well as the forward and downward pull at the anterior cornual attachments. It thus rides in a cradle as it were, movable backward and forward without ever being able to get back beyond its center of gravity or posterior to the direct line of axis of the pelvis. Hence the third force at play (the intra-abdominal force) is constant in its pressure on the posterior aspect of the uterus and thus trebly insures a permanent result. But one possible thing can happen to spoil the operation, viz., the complete breaking down of the suturing, which is so simple as to make that accident inconceivable.

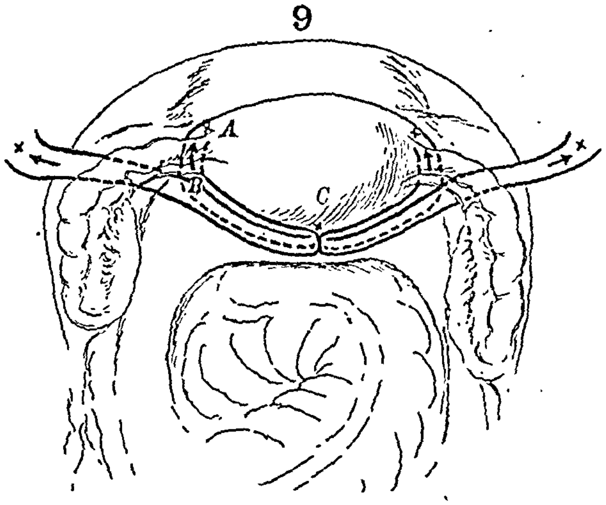


Fig. 9.—Outline sketch showing forces brought to bear and their results after operation is completed. When force is exerted on *C* backward (as would be the case if the uterus were forced back against that point) the effect on *A* will be to draw it downward and forward, provided *B* be a fixed point.

In adjusting the ligaments as they are brought together back of the uterus care must be taken first to draw the inner circle of the doubled ligaments (Fig. 4, *a-b*) snugly about the uterus as the organ is held in a good anterior position by the hand. They are then sutured together by a single stitch. The last step is to fix the loop to the uterus by a stitch or two at a point which will insure its anterior position. It is best not to make the attachment at a point higher than necessary to secure an assurance that the fundus cannot double backward over the encircling round ligaments. This point is found with little difficulty. If this precaution is not followed, the result may be unsatisfactory.

2219 De Lancey Place.

Care of the Insane.—Proper treatment and nursing of the acutely insane call for the broadest intelligence, not only on the part of the physician, but also on the part of the nurse and all who are brought into immediate contact with the patient.—W. K. Walker, in *Pennsylvania Medical Journal.*

ROUND-LIGAMENT VENTROSUSPENSION OF THE UTERUS *

D. TOD GILLIAM, M.D.
COLUMBUS, O.

As everyone is probably aware, this is the original ventrosuspension of the uterus in which the ligaments are left intact and in which the peritoneal investment is not disturbed. In devising this operation I wanted to get something that was as nearly physiologic as possible—something that would meet the requirements, without the drawbacks incident to the methods then in vogue. Especially was I anxious to get away from all fixations, as they are inherently pernicious and often fraught with disastrous consequence. The uterus is a mobile organ and cannot be fixed in any position or agglutinated to any other organ without detriment to itself and to other organs and parts which are contiguous or correlated. It must conform to various conditions of the bladder; it must alter its position according to the fulness or emptiness of the rectum; it must yield to the impulses of respiration and adjust itself to the various movements of the body. Unless it does so, it will impinge on, or be impinged on by other viscera and both will suffer. But this is not the worst. The paramount functions of the uterus are those essentially related to the great act of reproduction—pregnancy and parturition. The bound-down uterus cannot accommodate the growing fetus and the result, in many instances, is its premature expulsion. Should the fetus go to term, as it sometimes does, fortunately or unfortunately, it will be at the expense of unequal uterine development, distortion, changed axis, unbalanced muscular action and ineffectual expulsive effort. Such conditions at the accouchement always create consternation and too often culminate in disaster.

I shall not attempt to discuss the still mooted question as to what are the essential supports of the pelvic viscera, but there is one thing in which everyone agrees, and that is the necessity of having an intact pelvic floor to keep the viscera from settling. The first essential, then, toward correcting the backward displacement of the uterus is to restore the pelvic floor and the next is to replace the uterus and keep it there. The only way to keep it in position without compromising its usefulness is to utilize its natural guys—the round ligaments. Recognizing this fact, Alexander devised the operation of shortening the round ligaments at the inguinal outlet, and this is the basic principle of all modern operations for anchoring the uterus; but the Alexander operation makes no provision for the adherent, retroverted uterus, the condition most frequently calling for operation.

The caption of this paper signifies a suspension of the uterus from the abdominal wall by means of the round ligaments. This is a palpable misnomer, as will appear later, but was used as the most eligible term to express an approximation to the truth. Suspension of the uterus is neither rational nor feasible. None of the ligaments of the uterus, even the strongest, acts as a suspender of the uterus under normal conditions. A view of the uterus and its ligaments *in situ* will make this clear. The ligaments are all on practically the same plane with the uterus and lax; consequently, they cannot exert any suspensory influence. Should the uterus settle in the pelvis, or draw away from its moorings so as to assume a lower plane and put the ligaments on a stretch, they may, in a measure, become suspensory, but they soon prove their inefficiency by yielding to the sustained traction and thereby become of little value in a rôle for which they were never fitted. These little cords, like all the other uterine ligaments, are lax and allow of considerable latitude of motion backward and forward, but exert a gentle influence to prevent the organ from passing the vertical line. A slight resistance on the part of the round ligaments is ordinarily sufficient to check the backward movement of the uterus when, with the changed position of the body or the movements of respiration, the organ falls forward into normal anteposition. This, then, was the principle on which, as I believed, the solution of the question depended, and it was along these lines that the operation was devised. The fact that there have been a number of modifications of the original operation only serves to emphasize the strong probability that the principle is right and that round-ligament ventrosuspension, in one form or an other, has come to stay. Of these modifications, all of which are good and some excellent, I shall not speak, as they are each and all sustained by men of ability who are able to take care of their own. What I desire especially to accentuate in this paper and to reiterate, is the simplicity, safety and efficiency of the original operation, and its freedom from unpleasant sequelæ.

OBJECTIONS

The principal objection urged against the operation as originally devised was the danger of intestinal obstruction. This was brought forward early in the history of the operation, but of late I have heard nothing of it. That the objection was based on theoretical grounds entirely and not well founded is made manifest by the crucial test of time and numbers. Thousands of cases, during a period of more than a decade of time, have failed to furnish a single authenticated case of intestinal obstruction due solely and intrinsically to the operation.

The objection has also been advanced that after parturition the ligaments fail to exert any restraining influence over the uterus and that that organ reverts to its original malposition. This is true, but in a temporary sense only, just as it is true of many other uteri which have not been misplaced before, and is due to the size and weight of the uterus and elongation of the ligaments—not only the round, but all the ligaments which tend to hold the uterus in place. It is not only the uterus which develops during pregnancy, but the ligaments, the vagina, and all the soft parts of the pelvis, so that immediately and for some time after delivery, the pelvic cavity is more capacious and there is not the snug relationship of organ to organ which exists in the normal unimpregnated state. In operations during pregnancy, I have seen the round ligaments greatly elongated and of a thickness equal to that of the little finger. After involution of the uterus, the ligaments and soft parts has taken place, it will be seen that the uterus has returned to its normal position and that the round ligaments are as efficient in keeping it there as before.

Again, it has been objected that the operation is too apt to be followed by suppuration. There is not force in this objection. It has been many years since I had a suppuration following round ligament ventrosuspension. True, in the beginning I had cases of suppuration, some of a most aggravated type, but as I became familiar with the manipulative details, learned to deal with the tissues gently, and acquired that automatic asepsis that comes with practice, then suppuration ceased and with it the concern for suppuration. Suppuration following this operation means the same as in any other, neither more nor less.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910.

ADVANTAGES

Having disposed of the objections to the operation, I wish now to emphasize and reiterate its advantages. The cardinal virtues of this operation are to be found in its simplicity, safety, facility of execution and efficiency. It is so simple that any one of ordinary intelligence can understand it, and any one of ordinary surgical training can do it. It is so safe that any untoward result from it is almost inconceivable. The operation can be done with such ease and facility that with ordinary surgical skill and care there should be no question of infection or exhaustion. On this account it is especially valuable in multiple or combined operations in which it scarcely appreciably adds to the risk.

As regards its efficiency, I have never known a failure in a properly selected case in which the work was properly done. I have had one failure in my own practice; I attempted to anchor an anteflexed and retroverted uterus, held low down in the pelvis by a rigid and unyielding pelvic diaphragm, such a uterus as one occasionally finds in the virgin, which is not amenable to treatment of any kind. In such a case the operation should never be attempted. Neither should it be attempted in any case in which the uterus and appendages cannot be freed so as to allow the uterus to occupy its normal position without tension or restraint. Such cases are, however, extremely rare. Another cause of failure, as I have observed, is careless suturing of the ligament. Occasionally the ligament is not transfixed by the suture, when appearance would indicate that it had been. This is owing, in part, to the constriction of the ligament where it passes through the abdominal parietes. In order to be sure that I have the ligament on my needle, I direct my assistant to relax traction on the ligament while the needle is *in situ,* when, if the ligament does not retract, I know I have it on my needle. I have had occasion to remove the uterus at different periods after round-ligament ventrosuspension, and have always found the ligaments firmly attached to the abdominal wall and not yielding to any traction which I was willing to exert on them. As regards pregnancy and parturition after this form of suspension, I have found not only no evil results, but actual improvement in conditions owing to the uterus being held in the normal position. Cases of this kind are now too numerous to require special mention. While the technic is quite generally understood, the fact that I still occasionally get letters of inquiry with reference to certain points connected with it, suggests to me the desirability of again publishing it in this connection.

TECHNIC

The peritoneal cavity is entered by an incision at the usual site between the umbilicus and pubes. Adhesions are broken up and the fundus brought forward. By lifting up the anterior surface of the broad ligament on one side on the tip of a finger applied to its posterior surface, the round ligament is brought into view and picked up either between the thumb and finger, or with a bullet forceps.

Selecting a point an inch and a half from the uterus, a thread is passed under the round ligament (with its peritoneal investment) and the ends of the thread are brought out of the opening and secured in the bite of a clamp forceps which is laid on the surface of the abdomen. The other ligament is sought for and secured in the same manner.

At a point about one inch and a half above the pubes, the peritoneum, muscle and fascia on one side of the wound, are caught up by a volsella and pinned together, care being taken that the edges of these layers are in line. Traction is now made with the volsella and, with a claw retractor, the skin and superficial fat are drawn in the opposite direction, and with a sweep of the knife the face of the fascia is cleared. With a slender-nosed forceps, or better with a Cleveland ligature-carrier a stab wound is made from the surface of the fascia into the peritoneal cavity. This wound is one inch from the edge of the incision and about one inch and a half above the pubes. The jaws of the forceps are separated so as to make the opening large enough to permit the ligament to be drawn through it, then by depressing the handle the jaws are brought into plain view at the abdominal opening. The thread which loops the round ligament is now placed in the jaws, the clamp forceps and the perforating forceps removed, the latter bringing with it the thread and the ligament. Now, while the ligament is held taut with the loop end a quarter of an inch above the surface of the fascia, a catgut suture is passed through it including the tissues on either side, and back again where it is tied. This is cut close to the knot, the suspending thread cut on one side close to the ligament and withdrawn and the volsella and retractor removed. The other side is dealt with in like manner and the abdominal incision closed.

After both ligaments have been fastened it will be seen that an opening exists between the uterus and abdominal wall of from 7 to 9 inches in circumference, thus obviating any possibility of strangulation of the bowel. It will be observed that the uterus is not suspended but rests easily and naturally on the bladder, from which it can be raised to a position little short of the vertical. Thus the uterus is enabled to conform to the altered conditions of the bladder and rectum and to the various bodily movements. Should pregnancy ensue the ligaments develop *pari passu* with the growth of the uterus and there is neither embarassment in gestation nor difficulty in parturition.

IN PROLAPSUS

The application of this principle to prolapsus uteri is a thought of later years. Sacrifice of the uterus as in vaginal hysterectomy, does not always secure immunity from secondary prolapse of the vaginal walls, bladder or rectum. The Watkins-Wirtheim operation, while elegant and most satisfactory in the main, is applicable only to post-climacteric cases. This operation requires such extensive dissection of the bladder wall that many are loth to undertake it. Uterus fixation is temporarily, at least, very satisfactory, but cannot always be relied on for staying qualities. Most of the other methods which have been proposed for this condition are obsolete. A few years ago I conceived the idea of using round-ligament ventrosuspension of the uterus with certain modifications in prolapsus uteri, and although I have used it only a few times, the results so far have been eminently satisfactory—more satisfactory than with any other method of which I have knowledge. The steps of the operation are exactly those of the ordinary round-ligament suspension with the difference that the round ligament is first drawn through the broad ligament by means of perforating forceps and the thread which is looped around it and then taken up through the abdominal wall by the same thread and in the manner already described. Of course, the pelvic floor is to be repaired as in other operations and occasionally it will be found of advantage to amputate the cervix. The patients on whom I operated suffered from aggravated complete procidentia and today they are in excellent condition with a sense of perfect comfort and well-being so far as the pelvis is concerned. I suggest it as a simple and effectual method of dealing with a very troublesome condition.

50 North Fifth Street.

THE EVOLUTION OF THE SURGICAL TREATMENT OF RETRODEVIATIONS OF THE UTERUS *

E. C. DUDLEY, M.D.
CHICAGO

I desire at the outset to enter a disclaimer, in that I believe that the surgical treatment of deviations of the uterus and associated pelvic organs is far from settled, so far that perhaps some of the hysteropexies, the ligament shortenings, the suspensions, the fixations, in their wide divergence may to the next generation look as crude and unscientific as the routine clamp and drainage-tube in ovariotomy now look to us. Perhaps we are a little too inclined prematurely to dogmatize on the subject—and especially the inventor of an operation is like the expert witness, who said: "Your honor, in matters of fact I am often mistaken, but in matters of opinion I know I am right."

The fine adjustment of the mere mechanical technic of any or all of the current operations is of less consequence than the selection of suitable cases and the recognition of the facts that surgical measures are not demanded for all retrodeviations; that there is no fixed normal position of the pelvic organs; that the matter is one rather of normal movements than of normal position; that the normal supports, so-called, are functionally concerned, not with holding the organ in some fixed position, but rather with restraining it within its normal range of movements; that a uterus out of place, if you please, may by a surgical procedure be put in place and so fixed that the fixation is more injurious, more embarrassing than the displacement.

Many would say, not without reason, that we all are prone to treat this subject from purely mechanical points of view and thus to lose sight of essential pathologic changes which have produced mechanical deviations, treating effect instead of cause, like damming up a river to prevent its waters from flowing into the ocean. But on the other hand we must not forget that if the resources of Nature have been exhausted in the production of the lesion we may have recourse sometimes to mechanical measures, irrespective of the fact that if an ideal anatomic and physiologic cure is impossible yet a symptomatic cure may be desirable.

Confining the discussion to the relative merits of those procedures which now have the support of progressive surgery we may classify them under two heads:

1. Operations which give sustaining power by means of peritoneal adhesions or fixation.
2. Operations which give sustaining power by shortening of ligaments.

In the interest of brevity we may disregard surgical operations of whatever class which are performed by vaginal section, not that we should condemn vaginal hysteropexy *in toto,* but that the field is relatively narrow, and the discussion therefore in this place in some degree unprofitable.

The different procedures, therefore, so far as I shall weigh them, narrow down to operations performed through the median or nearly median abdominal section.

Touching the class of operations which give sustaining power by seroserous adhesion or fixation, that is, ventral suspensions and ventral fixations, some will remember thirty years ago when it was a vexed question what to do with a retroverted uterus before closing the abdomen after a pelvic operation, such for example, as the removal of pus tubes. Sometimes cautiously and tentatively and with some misgivings, having a pioneer respect for the peritoneum, we united with a single stitch the fundus or the anterior wall of the corpus uteri to some point in the peritoneum near the pubes. In a few weeks examination usually disclosed the uterus again retroverted and thereby demonstrated the inadequacy of this technic; then several sutures were used instead of one with the same result; then before suturing we scraped off with a sharp knife the peritoneal surface so as to give raw surfaces to be united and the result was strong broad cicatricial union and permanent fixation; in fact, immobilization of the uterus; then was written *the tragic and humiliating chapter of mechanical fixation* of the uterus, a chapter which told of obstruction of the bowel, dystocia, rupture of the parturient uterus and other obstetric calamities not to mention a formidable list of disabling, distressing consequences, neurotic and circulatory, local and general. Ventral fixation then relegated to the dark ages of surgery soon gave way to ventral suspension of the uterus by less barbarous methods—an operation popularized by Howard Kelly which in the final and successful evolution resulted quite uniformly in stable equilibrium of the uterus, and at the same time left it free in its normal range of movements. The principle was simple and effective; it was to unite to the anterior parietal peritoneum, not the fundus or the anterior wall of the corpus uteri but the posterior wall, and, what is most essential, to that part of the posterior wall just back of the fundus, a surface about one-half inch back of a line connecting the uterine ends of the Fallopian tubes. This surface was united to parietal peritoneum near the uterovesical reflexion. Stable equilibrium and permanent uniform results were secured by the simple change in the selection of surfaces to be united without denudation of the united surfaces and with two or three absorbable catgut sutures; that is, very light adhesions of these surfaces were sufficient. Moreover, this union, by lifting the posterior wall of the corpus against the parietal peritoneum, also served to tilt back the cervix so as to place it nearer to the hollow of the sacrum—a most essential mechanical factor in the correction of retroversion, for if the cervix be normally near the sacrum, the corpus does not have space in which to retrovert.

This operation, modified by myself in a personal experience of several hundred cases, was in a degree satisfactory both as a means of correcting the displacement and in its freedom from the distressing mechanical results which had discredited the obsolete operation of fixation It, however, may give rise to obstruction of the bowel, for it always left a more or less constricted passage around the uterus, especially if the adhesions pull out into cicatricial bands under which intestine could work its way and be compressed. Such accidents, with grave results, have been reported from time to time. Moreover, the operation in incompetent hands, although intended to produce light adhesions only, sometimes sets up union so strong and cicatricial as to amount to the much-dreaded fixation already condemned. These things being so, I finally disregarded my own satisfactory results and those of others, and have almost abandoned the operation, and in place of it for several years have substituted one after another of the various ligament-shortening operations.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

In taking leave of the suspension operation, which in the evolution of the subject has held so large a place, I pay it my very appreciative respects; it was a tried and trusted friend; it hardly ever failed; it never, in my personal experience, was followed by bad results which I could attribute to it: unfortunately, however, it is beset by the sentimental objection that it is not anatomic, and, under indictment therefore by the surgical purist is charged with the crime of being unsurgical. It may plead, however, extenuating circumstances, inasmuch as it has suffered from the evil relations and evil associations of fixation, the sins of which, by confusion of the two operations, have been visited on it most unjustly. And so, not without a sense of disloyalty, I dismiss, temporarily at least, an old benefactor, and pass to the more approved ligament-shortening operations.

There is, perhaps, more scientific indication for shortening the uterosacral than for shortening the round ligaments because these ligaments should maintain the normal short distance between the cervix uteri and the hollow of the sacrum, and because shortening them therefore may fulfill an essential indication, but with due respect for contrary opinions no uterosacral operation, so far as I am aware, has been developed to the degree of satisfactory stable results; that is, the shortened uterosacral ligaments do not hold well. They are liable to pull out again soon after the shortening, causing the operation to fail.

The recent operation of Harris,[1] by which a new ligament is formed to supplant the uterosacrals by utilizing the long tendon of the psoas parvus muscle, is too new to permit an estimate of its value; it probably is destined, however, to go the winding way of artificial ligament operations.

Shortening of the broad ligaments is not germane to this discussion, except as it enters incidentally into the round ligament operations.

Perhaps we may drop the curtain on Alexander's operation now regarded as obsolete. The substitute operation once advocated by Goldspohn, while reasonably effective, I would discard as requiring an unnecessary amount of surgery for the accomplishment of the purpose, especially since this surgery might, in the hands of an unlucky surgeon, weaken the region of both inguinal canals and the abdominal rings and thus give rise to hernia, to say nothing of its increased danger of sepsis. The various operations of doubling the round ligaments on themselves or of suturing them in front of the uterus, although very useful in their time, now, in the face of more recent procedures, appear to be passing into disuse. They always were open to objection of frequent inadequacy for permanent results.

Perhaps without fear of much contradiction we may eliminate from serious discussion all ligament-shortening operations except those which belong to the most recent era, an era which began with the operation of Gilliam. This operation has been modified in technic by Barrett, myself, and others, and has been somewhat, though perhaps not very materially improved. In addition to the merit of being anatomic, and therefore surgical, it gives reasonably permanent results, although possibly not so permanent as the suspension operations of Kelly, already described, approved, and reluctantly laid aside. Gilliam, so far as I am aware, took the longest step toward placing the surgical treatment of retrodisplacements on a scientific basis. Just what form of this method of supporting the uterus by drawing the round ligaments through other structures and fastening them there will stand the final test of experience against all others, the future must decide. The operation is not quite adequate, however, inasmuch as it fails like all others of its kind to hold the cervix back in its normal location near the hollow of the sacrum, an essential requirement for perfection still unfilled by any method so far proposed.

A radical departure from the Gilliam technic, although not entirely different in principle, inasmuch as it passes the round ligament through other structures, is the operation of drawing the round ligaments through the broad ligaments and fastening them on the posterior wall of the corpus uteri. Clarence Webster, I think, first described this operation, and therefore is entitled to the credit of literary priority. I believe it was earlier performed by Frank Andrews. It has been successfully championed by Baldy. I have performed it more frequently than any other for several years, and so far as I have been able to observe results, am inclined to give it a great deal of preference. This and other round-ligament operations are thought to be inadequate and therefore contraindicated when the ligaments are so attenuated as to be incapable of giving much support and in such cases many revert to the suspension operation by adhesion.

I think I would favor this operation even with an attenuated ligament inasmuch as it carries along with the ligaments considerable peritoneum, which becomes adherent and gives supporting power. In fact, the peritoneal element in posterior attachment is a most significant factor—almost as significant as it is in ventral suspension; it combines the advantages of ligament shortening with seroserous adhesions and is free from danger of resultant obstruction of the bowel so much feared in the ventral suspension and the original Gilliam operation.

The pessary, recognized in former times as being of great value, has fallen into unmerited disuse and the correct application of it has become almost a lost art.

One additional word: In this age of dramatic surgical achievement in the abdomen, let us remember that our fathers of the last generation developed plastic surgery on the vaginal side of the pelvic floor to a surpassing degree. Let us keep in sight the fact that any abdominal operation for retroversion or descent, however well selected or performed, may be of little avail against the counter-influence of a relaxed pelvic outlet, and that good plastic work below therefore may be indispensable. Perhaps it is true that the pioneers did better plastic work that we are doing now. It would be interesting entirely if under the blinding influence of major surgery, plastic gynecology should become a lost art.

100 State Street.

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[1] Harris, M. L.: A New Operation for Prolapse of the Uterus, The Journal A. M. A., May 14, 1910, p. 1605.

THE DISCHARGE OF LUNATICS BY HABEAS CORPUS PROCEEDINGS*

FREDERICK A. FENNING, LL.M.
Of the Bar of the District of Columbia
WASHINGTON, D. C.

The constitution of the United States[1] provides that "the privilege of the writ of habeas corpus shall not be suspended unless when in cases of rebellion or invasion the public safety may require it."

It is important at the outset that we have clearly before us in the consideration of this paper a precise idea of the legal significance and aim of the great writ to which it relates. A concise definition, which has generally been accepted as a most complete one, is that given in "Hurd on Habeas Corpus:"[2]

> The writ of habeas corpus is that legal process which is employed for the summary vindication of the right of personal liberty when illegally restrained.

It is along the line of this definition that I proceed to a discussion of the application of the writ respecting a single class of individuals, namely, the insane. Reverting to the historical, it may be of importance to recall that the original necessity for the writ of habeas corpus arose from a great many conditions which demanded remedy, one of the least of which was lunacy confinements. One of these conditions, as will be remembered, and a most important one, was the practice of imprisoning for debt. By far the large majority of habeas corpus cases in the old reports, both English and American, relate to restraint of liberty for reasons other than alleged or adjudged lunacy. We find, at the present day, however, that this writ, designed more particularly for divers other necessities, is being used to an astounding extent in lunacy cases. The increase in its use within the memory of living men has been so marked that it may well be inquired whether it has not become an abuse of privilege. The increase of the popularity of habeas corpus proceedings in lunacy cases has been due to several causes, to some of which I think it highly important that we give thoughtful attention. It is only by a full appreciation of the causes, taken with an intelligent comprehension of the effects that we can proceed properly and with well-founded hope toward a reform.

Let me emphasize that it is not the purpose of this paper to argue for one moment for a suppression of the writ as such. The writ of habeas corpus came into use by reason of a recognized necessity for such a process, and it has undoubtedly become an invaluable part of our judicial system. It is my desire to point out, if I may, the abuse of privilege in the obtaining of this writ by lunatics and those acting in behalf of such persons. In so far as applies to the issuance of the writ in cases of lunatics, I argue for a limitation of such use. In using the word "lunatic" I am not unmindful of the efforts of some of the medical profession to abandon the word, to substitute for it some word or phrase less harsh, something which signifies illness. This position taken by medical men is based, of course, on the modern view of insanity, and is at once both in keeping with that enlightened view and of kindly intent to the patient and his family. With these efforts I am in full sympathy, but as this paper treats the legal side of the subject, I use the term "lunatic," a word which the statutes and the decisions have given a distinct place in medical jurisprudence.

In the first place, in the case of every applicant there must have been an actual incarceration, either as a preliminary act under general police or public health regulations, or by decree of a court in confirming a due inquisition. Few persons apply for a writ of habeas corpus during the period of temporary detention. The applicants for the writ are in practically every instance, those who have been adjudged insane. Time was, we all remember, when persons supposed to be insane were taken to the nearest jail or prison and there confined without examination, without hearing, and without day, and it was the suffering of those thus confined that brought about through Pinel and others the recognition of the great fact that there is nothing of the criminal about an insane person, but that he is simply a sick man. This truth has come to have so firm a place in the mind of society that no longer is it possible—nor indeed is it the desire—to incarcerate an alleged lunatic without a full and fair hearing. It means a great deal, therefore, when we realize that the lunatics applying for discharge by habeas corpus are, as I said before, in nearly every case adjudged lunatics. They are not suspected individuals who have been summarily confined, but are those who have had their day in court, and have been found, in orderly manner by competent tribunals, to be in need of treatment for mental disease. As to these hearings in the several jurisdictions, it may be said that they have at least one feature in common, namely the fairness with which they are conducted toward the alleged lunatic. An examination of the widely differing proceedings throughout our country must convince one that in every instance the man whose sanity is in question has a fair opportunity in the presentation of his case. The variance in these hearings extends all the way from the admirable practice under the New York and Massachusetts laws which treat the patient as a sick man, to that in the District of Columbia which requires his examination before a jury of twelve laymen. A great deal has been spoken and written and much more can be said about the system which gives a jury of laymen the right to determine whether there should be commitment for mental disease. If all hospitals were private institutions conducted for gain, and the superintendents thereof were under lax regulations and without inspection laws, there might be some reason for placing twelve laymen between liberty and confinement. My own opinion, based on a study of European laws and those of some of our own states, and a practice specializing in such matters, is that the commitment may be safely entrusted to a judge. Be the hearing conducted in whatsoever manner, it must be conceded that the practice of committing sane persons to insane hospitals is a relic of ancient days or a creation of vivid imagination. Such being the case, the burden shifts, after adjudication, and it is, or certainly it ought to be, incumbent on the adjudged lunatic to show that he is sane if he is to secure discharge by habeas corpus. This burden should extend further. It should require, as suggested by a committee of the New York State Bar Association, a showing of *prima facie* sanity before the issuance of the writ of habeas corpus. The report of the special committee on the commitment and discharge of the criminal insane, presented at the meeting of that association held in Rochester in January, 1910, recommended that a person confined in any state hospital for the insane might make application for a writ of habeas corpus only on a written verified petition accompanied by a certificate made under oath by two qualified medical examiners in lunacy. It further recommended that the examiners in lunacy be required to give the reasons on which they based their belief as to the sanity of the applicant. A requirement such as this would do much to reduce the number of hearings on writs of habeas corpus, for it would operate to prevent the issuance of a large number of such writs.

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* Read before the Society of Medical Jurisprudence, New York City, Dec. 12, 1910.

[1] Constitution, Art. 1, Sec. 9, par. 2.

[2] Hurd on Habeas Corpus, p. 143

Certain "leeches" of the legal profession exist in every community, and there is a form of this species which fastens itself on hospital patients. Through the efforts of these shysters, patients who would not otherwise think of such a thing, and who really do not desire freedom, are led to apply for discharge on writs of habeas corpus. Petitions in such cases are not infrequently signed by the attorney as next friend of the patient. The next step, often followed, is to file the proceeding *in forma pauperis*. Thus the attorney after one short conversation or after receiving a letter or a postal card from the patient, is enabled without further consultation or a medical examination, and without taking up the matter with the hospital physicians, to indulge in what may be properly called a "fishing expedition." On the hearing if the patient is remanded, the attorney has lost simply the questionable value of his time, but if the patient is discharged the attorney demands substantial compensation. In a recent case which came under my observation the discharged patient had $600 accumulated savings, of which he complained that the attorney took $135 as a fee and borrowed $300. It is important to add that the remainder supported the patient two months and he was then recommitted to the hospital from which he had been discharged! As to his mental condition, it must be said that while at the time of his discharge he was quiet and contented, the strenuous life which he led during his two months' freedom, with attendant excesses and indulgences, changed him greatly and he returned with his mental disorder aggravated to an alarming degree. This practice, encouraged and fostered by the unrestricted issuance of writs of habeas corpus, has grown in some jurisdictions until it is nothing less than a cruel wrong on the patients and an outrage on justice. One remedy lies, as above suggested, in a requirement that the patient submit with his petition *prima facie* evidence of his sanity, or, in other words, that before burdening the court and hospital authorities, he obtain a substantial showing of reputable medical evidence as a basis for his petition.

Another class of patients seeking freedom through the great writ are the paranoiacs. As is commonly known, paranoia is a most dangerous type of mental disorder. The paranoiac invariably possesses cunning, usually in a marked degree. These patients differ from those to whom I have referred as being preyed on by unscrupulous attorneys, in that the personal activity of the patient is conspicuous in his efforts to obtain discharge. At Dannemora (the New York Hospital for Criminal Insane) the superintendent recently reported that the majority of his patients who were seeking writs of habeas corpus were paranoiacs, and that during five years four such patients who had been thus discharged had committed suicide. The records of many courts also show that in such cases the termination of one proceeding by the remanding of the patient simply marks the beginning of a new proceeding. Many patients suffering from this form of mental disorder have obtained six and eight writs; and as long as the writs are procured so easily, they will doubtless continue—to the retardation of the proper business of the courts, the disheartenment of hospital authorities, and the physical and mental detriment of the patients themselves. The court proceedings in such cases are unnecessary, quite as much so as those in the class of cases earlier discussed. It is self-evident that a requirement of medical evidence in support of a petition for a writ of habeas corpus would perforce prevent oft-recurring applications from the same patient.

In a paper prepared in 1909, Dr. Robert B. Lamb, superintendent of the Matteawan State Hospital, reported the subsequent history of forty-one patients for whom during a given period writs of habeas corpus had been obtained. Seven were remanded to the hospital and thirty-four were discharged. Of these thirty-four, fourteen found their way either to prison or asylum, eight were troublesome to their families because of mental disturbances, three were unable to earn their living and were cared for by relatives, six disappeared from view, two committed suicide, and one succeeded in becoming partially self-sustaining.

In the District of Columbia between given dates in 1905 and 1909, fifteen patients secured their discharge from the Government Hospital for the Insane on writs of habeas corpus. By reason of nearly all of these men having been soldiers and sailors and not residents of the District of Columbia it has been impossible to trace the subsequent history in every case. Of the number thus discharged, however, four were later taken in custody and recommitted to the hospital, one committed suicide, one committed a violent assault in a northern city and was placed in another hospital where he is now confined, one was admitted to a New York State hospital for the insane, and one became an inmate of an institution in the West and by his recent correspondence with a prominent government official has given evidence of profound mental disorder.

It is well worthy of note that during this same period 1,256 patients at the Government Hospital for the Insane were discharged by the superintendent without any proceedings whatsoever, and approximately 900 more were similarly released by the superintendent on parole to relatives and friends.

In an early case[3] in this country it was held that:

> "No principle of right is violated in putting a reasonable and salutary restriction on the liberty of a person who, from the loss of reason and judgment, is unable to provide means for his own cure or who is liable to use freedom from restraint in such way as to increase or prolong his malady."

In the light of this very sensible doctrine, it is clear that after a proper adjudication the patient in confinement is not being deprived by illegal restraint of the right of personal liberty—to use the language of Hurd's definition—and should not, therefore, be entitled to a writ of habeas corpus except on a proper advance showing of mental capacity.

As we consider the rights of the patient, so must we not overlook the rights of society. The men, women and children who are daily on the streets and in other public places have distinct rights which are of as much importance and value to them as any rights of the adjudged lunatic. "Man," says Montesquieu, "is born in society and there he remains." The incompetent is a component part of society and it is therefore necessary that certain restrictions be placed on him that he may not do violence to the welfare of the greater number. To be sure, the insane, as wards of the court, are peculiarly entitled to the most jealous protection of the court, but it is equally true that the great body social is entitled to the protection of the institutions of justice in the interests of the general welfare of the race. The welfare of the adjudged lunatic, then, should be considered, not of itself, but coordinately with—I am tempted to say, subordinately to—that of society. On the one hand, the discharge of an adjudged lunatic on evidence lacking clear proof of restoration to reason may for the moment please and satisfy the patient, and. on the other hand, it may harass and endanger his fellow citizens without number. In recent years the Rhode Island Supreme Court has spoken on this point with a fearlessness that is refreshing. In the case of Ex parte Palmer[4] the court after hearing the evidence of nine or ten physicians—several of whom were of wide reputation—to the effect that the petitioner was not insane, and on the other side that of four physicians of known probity and experience that it was dangerous to the community for petitioner to be at large, remanded him with these words:

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[3] Matter of Josiah Oakes, 8 Law Reg. 122.

> "Charged as we are with the high and imperative duty of protecting the people of the state, as far as lies in our power, from physical injury and violence at the hands of irresponsible persons, we are of the opinion that in order to warrant us in discharging the petitioner from his confinement he must show by a clear and strong preponderance of evidence that he is not insane and that his going at large will not be dangerous to the public peace. That so strict *a rule does not obtain* in all cases of this sort, that is, in petitions under the statutes of the various states, for the release of persons confined in insane asylums, we are well aware. But we think it should be the rule in a case like the one before us, and we therefore adopt it and shall be governed by it."

In this decision the protection of the court was extended to the community, the court declining, as you have noted, to take the responsibility of discharging because of a lack of "a clear and strong preponderance of evidence that he is not insane and that his going at large will not be dangerous to the public peace."

One needed reform, as I have tried to indicate, is the establishment by the petitioner of a *prima facie* case at the filing of the petition. Another is a uniformity of practice which will result in habeas corpus cases being heard before the nearest judge of competent jurisdiction without the questionable aid of a jury. Some time ago attention was directed by the superintendent of one of the New York state hospitals to a growing practice of the courts of granting writs returnable before other justices in distant parts of the state. The necessity for such a proceeding is purely imaginary; the burden that it puts on a disinterested and honorable institution and its officers is at once harsh and absurd. A striking instance of this abuse was that of a patient in the Willard (N. Y.) State Hospital, who, in September, 1909, after having been remanded in three or four habeas corpus proceedings, secured a writ returnable before a justice in Brooklyn nearly four hundred miles distant. A criminal in California[5] who wanted discharge on a writ of habeas corpus tried this plan of going beyond his own jurisdiction but in that case the supreme court of the state laid down a doctrine of common sense which ought to be appreciated by all who read it. The court said:

> "The legislature can never have intended that a party imprisoned under sentence of conviction for a misdemeanor should have the privilege of selecting from the judiciary of the whole state the individual to whom he prefers to make his *application*, however distant from the place of his detention, and compel the officer having him in charge to convey him, at the expense of the county, it may be from San Diego to Klamath, in order that he might avail himself of a remedy which the local judge of his county was equally authorized to grant. Nor need he stop here; the refusal to discharge by one judge is not a bar to another application before a different judge. After failing in his first application, the party may sue out another writ before a different officer, *and thus the term of his imprisonment* may be passed in traveling from one part of the state to another, at the expense of the county in which he was convicted, to the entire subversion of justice."

Hearings on writs of habeas corpus, by reason of the supposed exigencies requiring their issue, should be conducted by a judge without a jury. The practice has grown, however, of courts referring the issues raised in such hearings to a jury. This is not because a hearing by the court would amount to a violation of the right of jury trial, for the right of jury trial in habeas corpus cases has never existed. Going back to Blackstone's Commentaries we find the learned author commenting on the fact that the right of trial by jury was not recognized as existing in favor of an alleged lunatic under the common law.[6]

An alleged lunatic cannot be committed it is true, and cannot be tried to determine his mental condition, except by "due process of law," but as Judge Cooley points out in his work on "Constitutional Limitations,"[7] "The term 'due process of law' is by no means confined to trial by jury, but the term covers a variety of judicial proceedings."

There ought to be no room for doubt as to the proper legal method of conducting such inquiries. In the first place, the federal law provides[8] that in habeas corpus cases "the court, or justice, or judge shall proceed in a summary way to determine the facts of the case, by hearing the testimony and arguments, and thereupon to dispose of the party as law and justice require."

You will note that the court is required to proceed summarily, and Bouvier[9] defines a *summary proceeding* to be "a form of trial in which the ancient established course of legal proceedings is disregarded, especially in the matter of trial by jury."

Still another recognized authority on the subject, Professor Church, in his work on "Habeas Corpus,"[10] confirms this doctrine, using this language:

> "There is no provision in the Constitution of the United States, neither is there in any state constitution, which gives the right to have these issues of fact tried by a jury in such proceedings. The constitutions, federal and state, provide substantially, that the right of jury trial shall not be violated, but it is no violation of this inestimable privilege to deny it in chancery *proceedings, preliminary examinations* and proceedings by habeas corpus."

This matter becomes one of great moment when we observe, as has sometimes been alleged, the judge taking an open and positive position as to the *mental condition* of the patient while the jury takes an opposite view and the court confirms the jury's verdict. The judge in such cases, by reason of his ability to weigh evidence and his unbiased attitude, can render a verdict just to both the patient and the state, while a jury of laymen, torn by conflicting emotions and personal equations may, and frequently will, decide a mental question on any ground except that of the evidence.

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[4] Ex parte Palmer, 26 R. I. 486.
[5] Ex parte Ellis, 11 Cal. 222.

[6] Blackstone's Commentaries, i, 304.
[7] Cooley's Constitutional Limitations, p. 431.
[8] Sec. 761 U. S. Rev. Stat.
[9] Bouvier's Law Dictionary, ii, 683.
[10] Church on Habeas Corpus, p. 173.

It is the abuse of privilege which leads to corrective measures. A reform must come when an abuse becomes too flagrant. In these cases, we are coming, very generally, to a recognition that the petitioners are getting not only what a humane law and practice afford them, but certain so-called privileges not warranted by the intent of the law and of infinite harm to public institutions, to judicial procedure and to the patients themselves. The time is ripe, therefore, for an enforcement of the rights of the community at large, and if we concur in this view we are brought face to face with the question of how the existing abuses are to be corrected. I have endeavored to outline some needed changes in our laws as well as in our practice under existing laws. There remains to be brought to attention at least one other important method of correcting the evil. I refer to a dissemination of knowledge among the people at large as to present-day methods and management of public institutions for the care of the insane. A growing movement in such hospitals of giving publicity and of inviting medical cooperation is doing much to bring closer sympathy between physicians in charge and those in private practice. For two years past the government hospital at Washington has conducted each winter a series of staff meetings to which the physicians of the city have been urgently invited, and which invitation, it is gratifying to know, has been accepted by a large number of active practitioners. At these meetings, methods used in the examination, the care, the amusement, and the varied treatment of the insane, are discussed fully and freely. By such means the hospital physicians are getting the confidence of the people at large through the family physicians, and the old horror of hospitals—born and nurtured in ignorance—is being replaced by an intelligent idea of the work which the hospitals are striving to perform. This labor of the institutions—I speak with particular reference to the large government and state hospitals—is full of discouraging aspects. The trials incident to the work are materially reduced by cooperation and appreciation such as I have just mentioned, but a further step will be attained when in addition is added the confidence of the legislators, the bench, the bar and the jury box. It may be a far cry to the time when such universal confidence will exist. It ought not to be, for the cause is that of the people. The people have rights which the legislators ought to respect and will respect when they are insistently and persistently presented. As for the bench, the bar and the jury, I believe that a uniform stand by the courts for the protection of the many will be a guidance to the attorneys, as it must be a rule of action for the jury. In all the literature of the law no safer, saner or more fearless decision stands out than that of Judge Ludlow of Philadelphia.[11] This distinguished jurist, reviewing the evidence in a habeas corpus case, and remanding the patient to the hospital, said:

> "To take a proper and just responsibility in such a case as this, requires not bravery but courage—not that quality which sometimes degenerates into temerity, and is reckless of danger, but rather that other quality which is the result of reflection and is always cool and collected. Where our path of duty is plain we ought judicially to be courageous, not brave."

It was nearly forty years ago that Judge Ludlow uttered these words. He was the precursor of other jurists, who have maintained in positive terms their determination to protect society from those who would do it violence, as well as to protect those who would do violence to society. The goal which we seek is the better protection of society, without the releasing of any of the proper privileges and safeguards extended by the law to the mentally deficient. The difficulties in our way are numerous. Although the path of progress at times seems clear, there are ever present obstacles. Some of these are founded on honest bases and must be overcome by a campaign of education; others have their support neither in the law nor in righteousness and must be dealt with vigorously. Until medical science can cure all mental ills, those who suffer from such affliction must be cared for and directed, in ways that are pleasant, if you please, but always in paths that do not permit these unfortunates to be of danger to themselves or to their fellows. The great agencies of the law must be wide open to them, but with the limitations that are essential for the proper administration of justice, and the safety of all the people.

412 Fifth Street.

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[11] 7 Phila. Rep., 328.

SALVARSAN AND SODIUM CACODYLATE *

HENRY J. NICHOLS, M.D.
Captain, Medical Corps, U. S. Army
WASHINGTON, D. C.

The object of this paper is to present the results obtained by applying to sodium cacodylate the experiments which demonstrated the wonderful destructive action of salvarsan on the spirochetes of syphilis. These experiments are laid down in Ehrlich and Hata's recently issued monograph,[1] and, in brief, they consist, first, of the determination of the tolerated dose of a given substance for normal rabbits, and, second, of the determination of the curative dose for rabbits infected with *Spirochæta pallida.* The results are expressed in the form of a ratio, C: T. Hata has shown that the ratio for salvarsan is at least 1 to 10 with a single intravenous injection.

Interest among clinicians of this country in sodium cacodylate in the treatment of syphilis seems to date from an article by Murphy,[2] who gave a summary of the status of salvarsan at that time and then said:

> It has been announced that this drug will not be given to the profession for a number of months, a fact which forced us to try other preparations of arsenic. The one with which I have been most familiar is the sodium cacodylate, which we have been using for seven years to allay the pain of metastatic, osseous carcinomata.

He mentioned three cases in which the drug, given intramuscularly, seemed to have had a high spirillicidal power. Murphy's lead has been followed by a number of clinicians, and while few published reports have as yet appeared, it has become evident that the results are not uniform. Sodium cacodylate is, of course, not related to salvarsan in any way, except that it contains arsenic, and it would be very surprising if one could substitute, off-hand, a stock preparation for a highly refined product like salvarsan. Still, in view of our ignorance of the actual spirillicidal power of sodium cacodylate, and of the great interest in the general subject, it seemed worth while to fall back on the experimental method.

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* From the Bacteriological Laboratory of the Army Medical School, Washington, D. C. Published with permission of the Surgeon-General, U. S. Army.

[1] Ehrlich and Hata: Die experimentelle Chemotherapie der Spirillosen, 1910.

[2] Murphy: The Arsenical Treatment of Syphilis, The Journal A. M. A., Sept. 24, 1910, p. 1113.

TOLERATED DOSE

The problem, then, is to work out the ratio C:T for sodium cacodylate. Runnels[3] has recently given a review of the chemistry and physiology of the cacodylates and has emphasized the subject of purity of the drug. He examined the best of two samples bought in the market and found a sodium cacodylate content of 77.59 per cent. and concluded that the remainder consisted almost solely of water. The preparation used in the following experiments was Merck's, which came in brown glass bottles of one-eighth ounce capacity. Tested by the method of Imbert and Astruc it gave a cacodylate content of 67 per cent. There was no evidence of other impurity than the water of crystallization.

The tolerated dose was worked out for intravenous administration, as this is the most definite method in which to determine curative action. The drug was dissolved in salt solution in proportions which allowed the desired amount to be given within 5 c.c. Table 1 shows the results of injection of various quantities.

TABLE 1.—THE EFFECT OF VARIOUS DOSES OF SODIUM CACODYLATE ON RABBITS OF DIFFERENT WEIGHTS

Rabbit	Weight gm.	Dose per Kilogram	Result
1	2150	0.025	No visible effect.
2	2015	0.01	No visible effect.
3	2055	0.01	No visible effect.
4	2180	0.15	No visible effect.
5	1955	0.15	In a short time drowsy, with some paresis of hind legs.
6	2150	0.2	Drowsy; paresis of hind legs; rapid respiration; very sick.
7	2170	0.2	Drowsy; paresis of hind legs; rapid respiration; dead in twelve hours.
8	2020	0.25	Same symptoms; dead in twenty hours.
9	1970	0.3	Slight symptoms; recovered.
10	2000	0.3	Same symptoms; dead in twenty hours.

All the animals affected showed the same symptoms of stupor, rapid respiration and paresis of the hind legs. The animals that died showed congestion of the lungs and a small exudate in the pleural cavities.

The tolerated dose is the largest that can be given with safety to life; in other words, it is just short of the minimal fatal dose. In the present instance, "T" may be taken as 0.2 gm. per kg. for intravenous administration. Runnels considered 0.3 gm. per kg. as a maximum safe dose in rabbits, but this was by the subcutaneous method of injection, and with half grown animals.

CURATIVE DOSE

The curative dose was worked out on chancres of the scrotum and on lesions of the testicle produced by the eighth, ninth and tenth generations in rabbits of spirochetes from a case of human syphilis.[4] A complete protocol of one of the rabbits is given below.

RABBIT 2 (XX).—Oct. 4, 1910: Black; right testicle injected with 1.5 c.c. of a citrate mixture of serum from the testicle of Rabbit XVII; eighth generation; spirochetes abundant. October 24, small indurated patch in scrotum. October 31, testicle enlarged; nodule in epididymis; oval chancre in scrotum; spirochetes abundant in testicle by dark-field examination, twenty-seven days after inoculation. November 2, serum positive by Wassermann test. November 7, skin lesion much larger. November 9, serum positive. November 17, spirochetes present in testicle. November 21, large chancre, 24 by 12 mm. November 25, spirochetes present in chancre; same size; weight 1333

TABLE 2.—SUMMARY OF THE FINDINGS IN RABBITS AFTER THE INJECTION OF VARIOUS DOSES OF SODIUM CACODYLATE

Rabbit	Weight gm.	Condition at Time of Treatment *	Dose per kg.	Examination for Spirochetes After Treatment 1st Day	2d Day	3d Day	4th Day	5th Day	6th Day	7th Day	8th Day	9th Day	10th Day	11th Day	12th Day	Remarks
1 (XIX)	2330	Large chancre of scrotum, 18x18 m.m. Sp.+	.005	+.005	:	+	:	+	+	:	:	+	+	:	:	No effect on spirochetes or on lesions.
2 (XX)	1333	Large chancre of scrotum, 24x12 mm. Sp.+	.005	+.005	:	+	:	+	+	:	.01 pro kg. 606	—	—	—	—	No change in spirochetes or in lesion until 606 was given; then rapid healing.
3 (XXXII)	1900	Lesion of testicle size of olive...... Sp.+	.025	+	+	+	+	:	:	+	+	:	:	.01 pro kg. 606	—	Lesion became smaller; spirochetes persisted, active and numerous until 606 was given.
4 (XXXV)	1960	Lesion of testicle size of large olive.. Sp.+	.025	+ ±	+	±	:	:	:	:	+	+	:	:	:	Lesion became smaller; spirochetes partly immobilized at first.
5 (XXXIV)	1930	Chancre of scrotum, 12x16 mm...... Sp.+	.05	+	+	+	+	+	:	+	:	:	:	:	:	No effect on spirochetes or on lesion.
6 (XXXIII)	2090	Large diffuse lesion of testicle....... Sp.+	.075	+	+	:	+	+	+	+	+	:	:	:	:	No effect on spirochetes or on lesion.
7 (XXIX)	2240	Lesion of testicle size of olive....... Sp.+	0.1	+	+	+	+	:	+	:	:	:	:	:	:	No effect on spirochetes or on lesion.
8 (XXXVI)	1975	Chancre of scrotum, 18x17 mm...... Sp.+	0.15 "606"	+	+	:	+	+	:	:	:	:	:	:	:	No effect on spirochetes or on lesion.
Hata XI	2360	Two chancres of scrotum, 20x26 mm. Sp.+	0.015	—	—	—	:	:	:	:	:	:	:	:	:	Spirochetes destroyed in twenty-four hours; lesions healed in two and three weeks.

* + = Present, active; ± = present, motionless; — = not found.

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[3] Runnels: The Carbon Compounds of Arsenic in the Treatment of Syphilis, New York Med. Jour., xcii, No. 22, p. 1053.

[4] Nichols: Experimental Yaws in the Monkey and Rabbit, Jour. Exper. Med., xii, No. 5, p. 620.

gm.; 0.005 per kg. sodium cacodylate intravenously. November 26, spirochetes present, sluggish in movement; 0.005 per kg. sodium cacodylate intravenously. November 28, spirochetes present, active, numerous, no change in lesion; serum positive. November 30, spirochetes present, active. December 1, lesion 22 by 17 mm.; spirochetes present, active. December 3, 0.01 per kg. salvarsan intravenously. December 4, spirochetes not found. December 5, spirochetes not found; lesion 16 by 16 mm. December 6, spirochetes not found; lesion much smaller. December 9, spirochetes not found; lesion much smaller. December 10, spirochetes not found; lesion nearly healed. December 12, lesion nearly healed; doubtful serum. December 19, no remains of lesion, serum negative.

When in the course of this work the dose of 0.025 per kg. was reached, it was at first thought that some curative effect was becoming evident in Rabbits 3 and 4, because the lesions became smaller after treatment, and the spirochetes were in part immobilized for two days in one animal; but higher doses failed to show anything of the kind, and the testicular lesion is, naturally, subject to certain fluctuations.

As is evident from the results recorded in Table 2, it is impossible to demonstrate any spirillicidal action for sodium cacodylate in infected rabbits short of seriously injuring or killing the animal. Hence "C" cannot be given any value, and the ratio C: T, or 0/0.2, signifies no specific action.

COMMENTS

Of course facts gained from experiments on animals often cannot be directly transferred to human medicine; but much of our knowledge about salvarsan and other experimental substances has been so transferred and no reason is apparent why sodium cacodylate should be an exception. Dawes and Jackson[5] have shown that any therapeutic effect sodium cacodylate may have is due really to decomposition and reduction products such as cacodyl, arsenious and arsenic acids. The amount of reduction depends largely on personal idiosyncrasy, and in this way a very uncertain element is introduced. It is possible that more reduction is effected by several small subcutaneous or intramuscular injections than by a single large intravenous injection, and that the nascent acids may have some favorable action on the tissue reactions to the spirochetes, or even on the spirochetes themselves; but it is fair to conclude that neither sodium cacodylate nor its reduction products have any considerable spirillicidal action. Their organotropic properties are fully as strong as their parasitotropic properties. Many substances which had a ratio of 1 to 2 or less were discarded as useless in the elaboration of salvarsan.

For all practical purposes salvarsan should be regarded as a new substance and not merely as a new arsenical compound. The arsenic is only a part of a complicated instrument and would be of little value alone. The arsenic must be reduced, trivalent and in firm combination with the benzol ring; and the benzol ring must be substituted with the OH group and the NH_2 group in the *ortho*-position before a maximum destruction of spirochetes is possible. From this point of view, sodium cacodylate has no more relation to salvarsan than a pair of artery forceps has to a lithotrite in the extraction of a stone from the bladder.

RESISTANCE TO TREATMENT

When sodium cacodylate was first used, it was feared in some quarters that the spirochetes might become resistant to arsenic and fail to respond to a later treatment with salvarsan. So far this has not materialized, and, from the absence of effect on the spirochetes shown in the preceding experiments, it is not likely to be realized. The spirochetes in lesions of several rabbits which had been treated with sodium cacodylate have promptly disappeared after a subsequent treatment with salvarsan in ordinary doses of 0.01 gm. per kg. In the following case, the spirochetes also behaved similarly.

The case was under the care of Dr. M. D'Arcy Magee of Washington, who kindly furnished the following data:

A man, aged 22, date of whose infection was uncertain, had primary lesion and secondary eruption in July, 1910; was given inunctions of mercury and potassium iodid for two months. The patient was seen by Dr. Magee Sept. 27, 1910; there were numerous mucous patches in mouth, scaling syphilids of palms and soles of feet and general glandular enlargement. Sodium cacodylate was given by intramuscular injection up to 18 grains, extending over about a month. The doses were of ½ grain daily at first and then, after a short intermission 1 grain daily. Toward the end of the treatment the patient's breath had a strong odor of garlic. The lesions of the palms and soles improved considerably but the patches remained unchanged. I saw the patient Nov. 14, 1910; spirochetes were found in the mucous patches of the mouth by the dark-ground microscope; serum taken on this day was positive by the Wassermann reaction. November 16, 0.5 gm. salvarsan was given by injection of the alkaline solution in each buttock. November 23, mucous patches healed. November 29, serum weak; hands and feet clean. December 5, gain of 5 pounds since November 30. December 14, serum weak. December 19, serum negative, thirty-three days after injection. The patient has gone to work for first time in four months.

Hence, while there is no indication for the use of sodium cacodylate in syphilis on experimental grounds, it apparently does not interfere with a subsequent treatment with salvarsan.

CONCLUSION

As is noted above, Hata found that the ratio C:T for rabbits was 1:10 for intravenous administration of a single dose. It is probable that for human medicine the ratio is somewhat greater, because in the rabbit the disease is confined to the testicles or scrotum and the spirochetal content of the body cannot be as great as it is in a generalized infection in man. Now we know that, other things being equal, the curative dose varies with the number of spirochetes present; but as destruction is definite at 1 to 10 or in some cases even at 1 to 20, there is good reason to believe, both on experimental and clinical grounds, that a ratio of 1 to 5, or 1 to 2, will suffice to kill all spirochetes in the human body. In some early cases of syphilis patients have beyond reasonable doubt been cured by doses of from 0.3 to 0.6 gm. and 1.2 gm. has been given without ill effects.

At the present time it may be taken for granted that salvarsan is a specific against syphilis and the important question now is: What is the best dose and best method of administration for a given stage of the disease? There is considerable evidence to show that the size of the dose should vary inversely with the duration of the disease. The original Alt method of injecting the alkaline solution intramuscularly seems to hold its own for certainty in results. The Wechselmann method, or the subcutaneous injection of the neutral suspension, has lost much of its vogue on account of slow absorption and liability to necrosis of the tissues. One or more intravenous injections, in some cases, seems to be too brief in action; but observations extending over months are needed on all these points. In Ehrlich's words, "The indications at the present time are not to scatter our strength in trying out new substances but to concentrate all our efforts on improving the method of administration, on strictest asepsis, on carefully increasing the dose, on repeating the treatment and finding suitable adjuvants, in order constantly to approach more nearly to the ideal of *therapia magna sterilisans*."

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[5] Dawes and Jackson: Physiologic Action, Elimination and Therapeutic Application of Sodium Cacodylate, Used Hypodermatically, The Journal A. M. A., June 22, 1907, p. 2090.

SUMMARY

1. Sodium cacodylate has no spirillicidal action in rabbits infected with *Spirochæta pallida* when tested by Ehrlich and Hata's technic.
2. Treatment with sodium cacodylate does not interfere with a subsequent treatment with salvarsan.
3. The most important question in the treatment of syphilis to-day is, "What is the most suitable dose and what is the most efficient method of administration of salvarsan in a given stage of the disease?

TRANSMISSION EXPERIMENTS WITH THE VIRUS OF POLIOMYELITIS

FINDING THE VIRUS IN THE NASOPHARYNGEAL MUCOSA OF MONKEYS RECOVERED FROM THE ACUTE STAGE *

ROBERT B. OSGOOD, M.D.

AND

WILLIAM P. LUCAS, M.D.

BOSTON

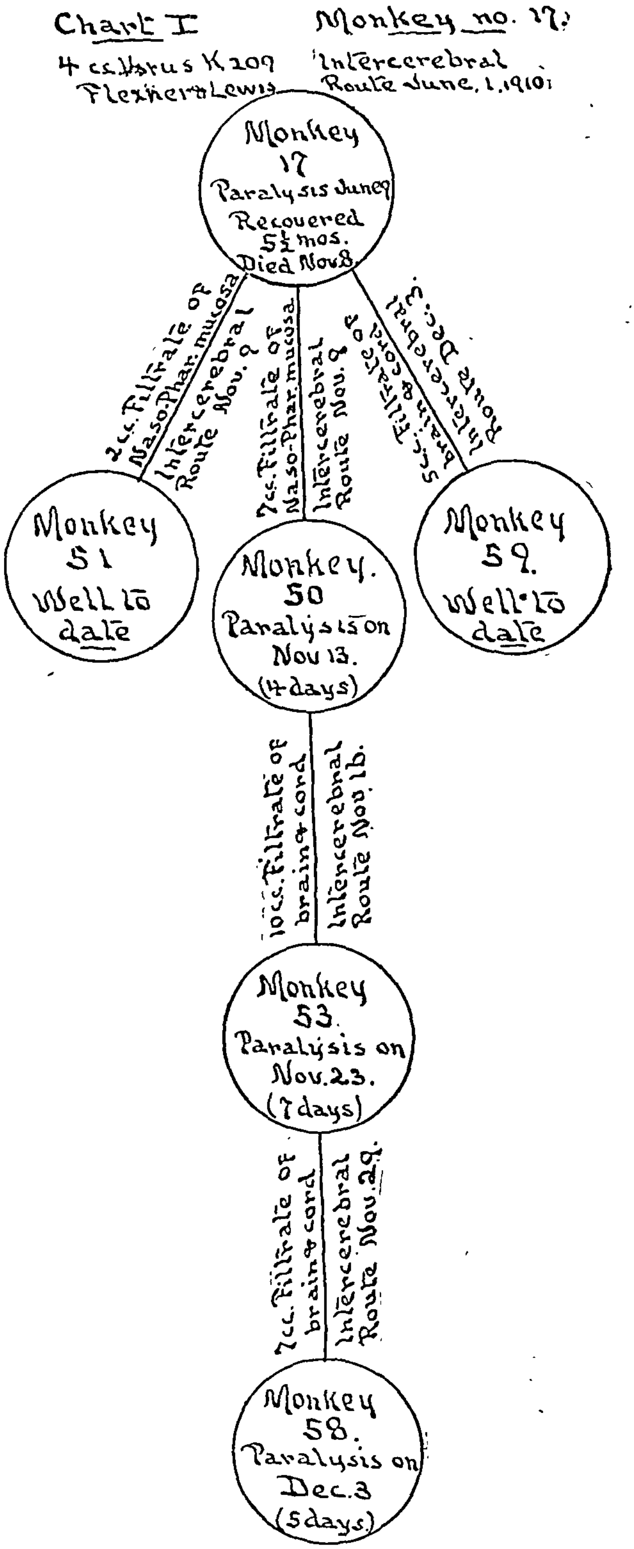
The findings which are recorded in the following protocols and charts came out in an investigation for which we received our original material (virus) from Dr. Flexner and Dr. Lewis, whose encouragement and advice have made this work possible. This investigation is being carried on for the purpose of determining some means of early diagnosis and of the treatment for this condition both in the way of prophylaxis and also during the acute stage. If successful in keeping the subjects alive, we hoped that some light might be thrown on the late treatment of the paralyzed muscles. In a more complete report which is shortly to follow, these questions will be more fully discussed.

In the attempt at keeping the paralyzed monkeys alive success was only partially obtained. For this partial success we are largely indebted to our laboratory assistant, Mr. J. S. Winslow. We have been able to keep four monkeys alive ranging from six weeks to five and a half months. In these cases we feel sure that death was not due directly to the paralysis, but was in most cases due to intercurrent affections and especially to inanition.

The important results deal with Monkey 17 and the series inoculated from the nasopharyngeal mucosa of this monkey, and also with Monkey 54 and the series inoculated from the nasal mucosa of this monkey, and finally with Monkey 6 and its series.

PROTOCOLS OF EXPERIMENTS

MONKEY 17.—This monkey received 4 c.c. of virus K (Flexner and Lewis) on June 1, 1910. The first symptoms of paralysis appeared on June 9; complete paralysis by June 11. The paralysis had begun to improve on July 15, when there was marked improvement in both fore and hind limbs. This monkey lived throughout the summer and had recovered to such an extent that he could feed himself with considerable ease. He could almost turn himself, but could not stand or walk. Early in November his appetite failed, and he died on November 8. Complete necropsy by the Department of Neuropathology showed no intercurrent disease. The nasopharyngeal mucous membrane was removed under careful precautions; was ground up in sterile salt solution and passed through a Berkefeld filter, the resulting amount being 10 c.c. of filtrate. Nine c.c. of this filtrate from the nasopharyngeal mucous membrane were passed by the intercerebral route into two monkeys.



MONKEY 50.—This animal received 7 c.c. of nasopharyngeal membrane filtrate of Monkey 17, Nov. 9, 1910. The first symptoms appeared on November 13 (four days). There was no

paralysis noted. The monkey, however, showed the characteristic nervous prodromal symptoms. He died during the night and necropsy performed early November 14 by the Department of Neuropathology showed typical selective lesions of myelitis.

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* From the Department of Surgical Research, Harvard Medical School. Work done under a grant from the Proctor Fund.

Monkey 51.—This monkey received, intercerebral route, 2 c.c. of filtrate of nasal mucosa of Monkey 17. This monkey has at no time shown any symptoms, and at the time of writing this report, Jan. 13, *1911*, is perfectly well.

Monkey 53.—On November 16 Monkey 53 received, intercerebral route, 6 c.c. of a salt solution emulsion of the cord and brain of Monkey 50. On November 22, the first prodromal symptoms were noted; November 23, typical complete paralysis. November 23, the animal was killed by etherization. Necropsy by the Department of Neuropathology showed typical selective lesions of myelitis.

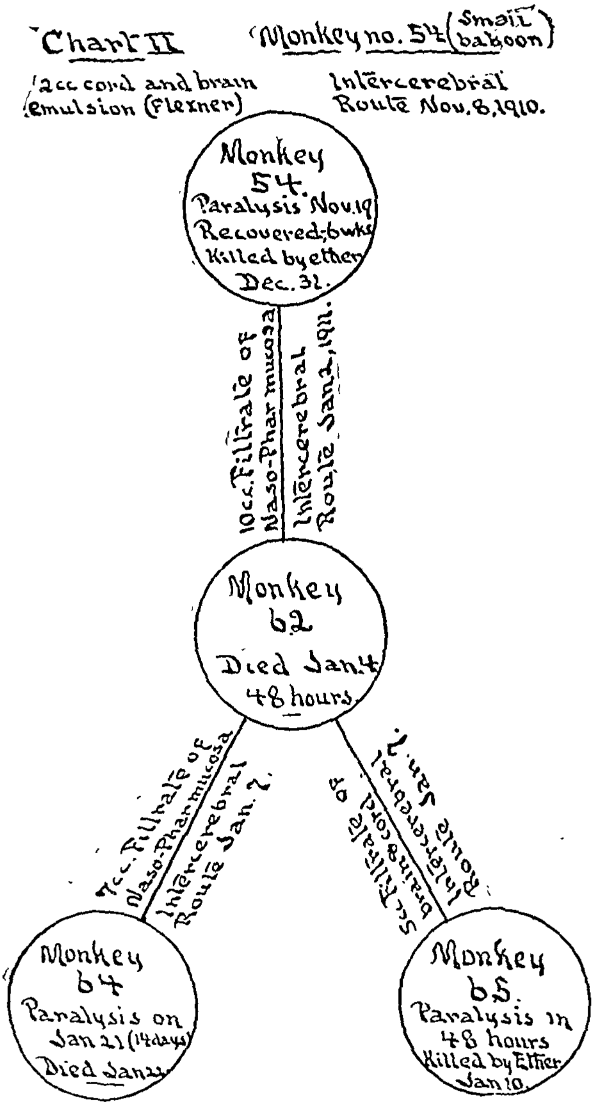
Chart II
Monkey no. 54 (Small baboon)
2cc cord and brain emulsion (Flexner)
Intercerebral Route Nov. 8, 1910.
Monkey 54.
Paralysis Nov. 19
Recovered; 6 wks
Killed by ether
Dec. 31.
10cc. Filtrate of Naso-Phar mucosa
Intercerebral Route Jan. 2, 1911.
Monkey 62
Died Jan. 4
48 hours.
7cc. Filtrate of Naso-Phar mucosa
Intercerebral Route Jan. 7.
5cc. Filtrate of brain & cord
Intercerebral Route Jan. 7.
Monkey 64
Paralysis on Jan 21 (14 days)
Died Jan 22.
Monkey 65.
Paralysis in 48 hours
Killed by Ether
Jan 10.

Monkey 58.—November 29 this monkey was given 6 c.c. of emulsion from cord of Monkey 53, intercerebral route. On December 3 he showed the first signs of paralysis. Paralysis was complete late in the afternoon and he was killed by etherization on the same day. Necropsy by the Department of Neuropathology showed typical selective lesions of myelitis.

Monkey 59.—December 3, 5 c.c. of the filtrate of the cord of Monkey 17, which had been preserved in equal parts of glycerin and salt solution was given by the intercerebral route. There have been no symptoms from this monkey at any time.

Monkey 54.—This was a small baboon which had been sent to us from Springfield, Mass., for the purpose of studying what was supposedly a spontaneous paralysis which had occurred in 1908. This baboon showed marked weakness of her hind legs; she could not jump, but could climb in a fairly active, though clumsy way. She was given an intercerebral injection on November 8 of 2 c.c. of a 5 per cent. emulsion in salt solution which we had obtained from Dr. Flexner on November 5. The first signs of paralysis appeared on November 19. The monkey was kept alive until December 31, when on account of inanition she was etherized and her nasopharyngeal mucous membrane removed under careful precautions, ground up and passed through a Berkefeld filter. This monkey at autopsy showed a well-marked softening of the gray matter, especially of the anterior horns of the cord.

Monkey 62.—This monkey was given 10 c.c. of the filtrate from the nasopharyngeal mucous membrane of Monkey 54 on the morning of January 2. January 3, in the afternoon, Monkey 62 first showed the prodromal restlessness and was apparently very sensitive and was having slight tetanic movements. *There was no paralysis at this time* and he could move about his cage. January 4, in the morning, he was found unable to get up. Paralysis, however, was not present so far as we could make out, though both fore and hind legs were held tonically contracted. During the morning the monkey had respiratory failure and died rather suddenly. Necropsy by the Department of Neuropathology showed in the brain hemorrhages in the meshes of the pia with a moderate number of polynuclear leukocytes and a mononuclear cell infiltration in the medulla. The meninges at focal points showed intense infiltration with various cells, polynuclear, mononuclear, endothelial cells, etc. In the substance of the medulla the glia cells showed a slight reaction to acute ganglion cell changes. There were a few scattered hemorrhages. The cerebrospinal fluid taken at the time of autopsy showed a large number of polynuclear leukocytes, compound granular cells, lymphocytes, etc. The nasopharyngeal mucous membranes were removed under careful precautions and passed through a Berkefeld filter. The cord and brain were also emulsified and passed through a Berkefeld filter.

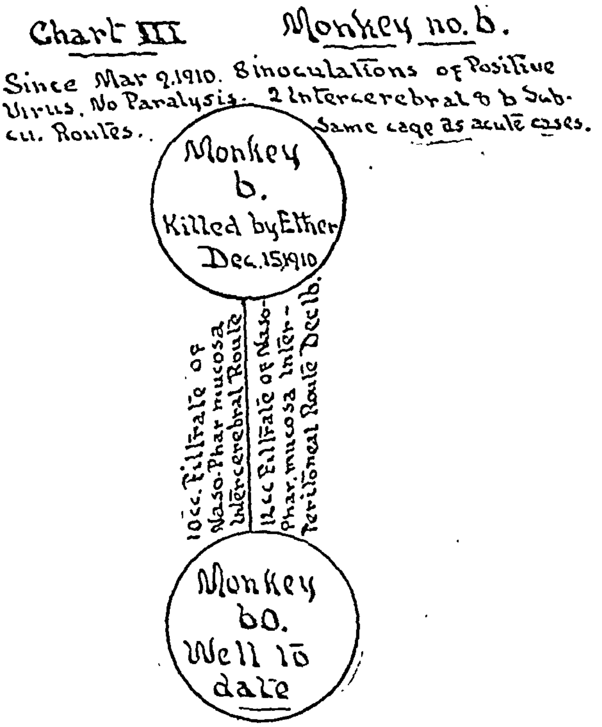
Chart III
Monkey no. 6.
Since Mar 9. 1910. 8 inoculations of Positive Virus. No Paralysis. 2 Intercerebral & 6 Sub-cu. Routes.
Same cage as acute cases.
Monkey 6.
Killed by Ether
Dec. 15, 1910
10cc. Filtrate of Naso-Phar mucosa Intercerebral Route
12cc Filtrate of Naso-Phar. mucosa Inter-Peritoneal Route Dec 16.
Monkey 60.
Well to date

Monkey 64.—On January 7 this monkey received 7 c.c. of the nasopharyngeal mucous membrane of Monkey 62. On January 21 the first symptoms of paralysis appeared. The monkey was found in the morning in a very weakened condition, which rapidly progressed until there was a complete paralysis with slight respiratory movement. The monkey lived for twenty-four hours in this practically moribund condition, and died January 22, when a necropsy was performed by the Department of Neuropathology, which showed in the cord degeneration of the ganglion cells, the glia cells were markedly increased and the small blood-vessels were very prominent.

Monkey 65.—On January 7 this monkey was given 5 c.c. of the filtrate from the cord of Monkey 62. January 9 there was complete paralysis. January 10 the monkey was killed by etherization because of marked respiratory difficulties. Necropsy by the Department of Neuropathology showed acute regressive changes in the ganglion cells and an increase of the glia elements in the gray matter of the cord.

Monkey 6.—This was a monkey of our first lot; he received 3 c.c. of virus MA (Flexner and Lewis) by the intercerebral route on March 9, 1910. On March 22 there was a marked drop in his white count from an average of 26,000 to 14,000, which in the light of other findings might possibly be considered as a prodromal symptom; otherwise there were no symptoms from the inoculation. During April and May this monkey received 25 c.c. of a thick emulsion of cord and brain from positive cases in monkeys. This was for the purpose of creating antibodies. At no time were there any symptoms from these inoculations. This monkey was also allowed to live in the cage where several of the monkeys came down with their acute attacks, and drank out of the same cup during the acute onset with one or more monkeys. He at no time showed any symptoms. He was killed by etherization on December 15 and his nasopharyngeal mucous membrane removed under careful precautions and passed through a Berkefeld filter.

Monkey 60.—December 16 this monkey was given 10 c.c. of filtrate from the nasopharyngeal mucosa of Monkey 6 by the intercerebral route. He was also given 12 c.c. of the same filtrate intraperitoneally. There have been no symptoms up to the present time.

These experiments, therefore, show that it was possible to transmit from monkey to monkey a typical poliomyelitis from the filtrate of the nasopharyngeal mucosa of two monkeys dying without other discoverable infections respectively six weeks and five and a half months after the acute stage of the disease. In one case we have been able to transmit the disease from the nasopharyngeal mucosa of a monkey dying in the acute stage. In these experiments it has been impossible to transmit the disease from monkey to monkey by intercerebral inoculation of the cord and brain of these recovered subjects or from filtrates of the nasopharyngeal mucosa of a monkey in apparent good health, which had received a previous intercerebral inoculation of an active virus with only questionable prodromal symptoms, but which had lived in closest contact with monkeys in the acute stage of the disease.

That the virus of poliomyelitis is contained in the nasopharyngeal mucosa of inoculated monkeys was pointed out by Flexner and Lewis,[1] who regarded this membrane as a possible route of spontaneous infection in man.[2] The virus had previously been demonstrated solely in the mucous membrane of recently inoculated animals. The observations recorded here indicate that the virus of poliomyelitis can persist in a viable and infectious state in the nasopharyngeal mucous membrane in the monkey for several months after the acute period of paralysis has passed, and for a far greater period of time than it survives in the central nervous system.

We have noted no case of transmission from monkey to monkey except by direct inoculation, although closest association with subjects in the acute stage has been maintained both by contact and the use of the same feeding utensils and material.

372 Marlborough Street—261 Beacon Street.

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[1] Flexner, S., and Lewis, P. A.: The Journal A. M. A., Feb. 12, 1910, p. 535.

[2] Flexner, S.: The Contribution of Experimental to Human Poliomyelitis, The Journal A. M. A., Sept. 24, 1910, p. 1105.

THE FUNCTIONS OF THE STOMACH IN DIABETES MELLITUS

WITH SPECIAL REFERENCE TO THE DETERMINATION OF PEPSIN*

JOHN J. GILBRIDE, A.M., M.D.
PHILADELPHIA

It has been known for some time that the motility of the stomach is usually increased and that the gastric secretion is frequently diminished in diabetes mellitus. In pancreatic diabetes the ferments or zymogens are, according to those who have studied them, frequently affected; the pancreatic ferment, the muscular ferment, and the glycolytic ferment are deficient, suppressed or not activated, and glucose does not undergo combustion, but is excreted in the urine.

The few cases that form the basis of this paper were studied with the object of investigating the secretion of pepsin in patients with diabetes mellitus.

As diabetes mellitus is not a common disease, and as digestion is usually good in diabetic patients, one does not have occasion to examine the functions of the stomach in many of these patients. Some of these patients, however, complain of stomach distress, and some other patients have stomach disease, although they do not have any subjective symptoms of dyspepsia. One of the patients whose case is here reported had catarrhal gastritis, one catarrhal gastritis and dilatation of the stomach, with retention, and one other patient had marked gastroptosis; only one of these, the last, sought advice for dyspepsia or complained of indigestion. Altogether, twenty-two test breakfasts or full test meals were given to these seven patients. It was learned early that one could not wait forty-five minutes to aspirate the stomach after an Ewald test breakfast, but in order to obtain any stomach contents for examination the aspiration had to be performed in thirty minutes, and in some instances at the end of twenty minutes. This was true in the case of L. W., who had gastroptosis. Three attempts to obtain gastric contents in forty-five, thirty and twenty-five minutes, respectively, failed, and the attempt was successful only on aspirating the stomach in twenty minutes, and then only 10 c.c. of contents were obtained. The patient refused further examination. It was also noted that in some instances the stomach was empty in two or two and a half hours after a full dinner.

In the case of S. B., on one examination after an Ewald test breakfast, very little material was obtained at the end of thirty minutes. On one other occasion, however, a pint of contents was aspirated at the end of three hours after a full dinner. At that time the patient was suffering from an increase in the severity of his symptoms, with a greater amount of glucose output in the urine. In the Ewald test breakfast, ordinary wheat bread was eaten; the full meals were those in which only foods permitted in diabetes mellitus were given.

Pepsin digestion was tested by the Mett method. Pieces of glass tubing 2 mm. in diameter containing the boiled white of egg were placed in the liquid to be tested—stomach contents 1 c.c. to 16 c.c. of one-twentieth normal hydrochloric acid—and this put in the incubator for twenty-four hours, after which the glass tubing containing the egg-white was removed and the digestion of egg read off under the microscope by using a mechanical stage. All of these specimens of gastric contents were controlled by testing at the same time other specimens of gastric contents known to contain pepsin.

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* From the Laboratory of Clinical Pathology, Philadelphia Polyclinic and College for Graduates in Medicine.

Eighteen tests for pepsin were made on the gastric contents of six patients, as shown below. In one, no pepsin was found; in one, although there was a high hydrochloric acid content, in five different analyses, two showed no pepsin digestion; and of the other three tests the digestion was 0.1 mm. In one patient there was a vigorous pepsin digestion; in two other cases the pepsin was somewhat reduced. While in one patient, A. C., the gastric contents were examined three times after an Ewald test breakfast, and three times after a full dinner pepsin was not found in the first five examinations, but a good pepsin digestion was found on the sixth examination. This was after a full dinner.

A short note of the history of each case is here appended.

CASE 1.—Patient, L. W., female, aged 65; born in Germany. Gastroptosis and diabetes mellitus. Amount of glucose in urine, 3.1 per cent. Ewald test breakfast aspirated at end of different periods showed as follows: At the end of forty-five minutes, no contents obtained; at end of thirty minutes only a few drops obtained on end of tube; at end of twenty-five minutes only a few drops obtained on end of tube; at end of twenty minutes 10 c.c. obtained; total acidity 90; free hydrochloric acid 48; pepsin not determined.

CASE 2.—Patient, A. C., female, aged 45; born in Russia; patient kindly sent to me by Dr. A. A. Eshner.

Glucose in urine, 1.8 per cent.

Nov. 18, 1908: Ewald test breakfast; aspirated in forty-five minutes, nothing obtained.

Nov. 23, 1908: Ewald test breakfast; aspirated in thirty minutes, 20 c.c., total acidity 4; no free hydrochloric acid; no pepsin.

Nov. 30, 1908: Full dinner; aspirated in three hours, nothing; no lactic acid; no Oppler-Boas bacilli found; no pepsin.

Dec. 14, 1908: Full dinner; aspirated in two and one-half hours, 30 c.c., total acidity 10; no free hydrochloric acid; no pepsin.

Dec. 21, 1908: Ewald test breakfast; aspirated in thirty minutes; 4 c.c., total acidity 6; no free hydrochloric acid; no pepsin.

Dec. 28, 1908; full dinner; aspirated in two and one-half hours; 20 c.c.; total acidity 10; no free hydrochloric acid; 2.7 mm. pepsin.

Pepsin absent after five examinations; present on the sixth.

CASE 3.—Patient, H. C., male; aged 39; born in Russia; kindly sent to me by Dr. David Riesman. Glucose in urine, 2.8 to 3.2 per cent.

Feb. 5, 1909: Ewald test breakfast, aspirated in forty-five minutes; 150 c.c.; total acidity 38; free hydrochloric acid 28; 4.2 mm. pepsin; digestion good; considerable mucus present.

Feb. 17, 1909: Full dinner; aspirated at end of three hours; 1 pint; total acidity 44; free hydrochloric acid 26; 4.1 mm. pepsin. Gastric contents contained a great deal of mucus.

CASE 4.—Patient, F. S., female; age 37; born in Russia. Dr. David Riesman permitted me to examine this patient. Diabetes mellitus; lacerated cervix and perineum. Glucose in urine from + to 7 per cent.

Feb. 16, 1909: Ewald test breakfast aspirated in thirty minutes; 20 c.c.; total acidity 76; free hydrochloric acid 36; 2. mm. pepsin.

CASE 5.—Patient, D. C., female; aged 40; born in Russia. Kindly sent to me by Dr. David Riesman. Glucose in urine 2.35 per cent.

Dec. 1, 1909: Patient ate a full dinner at noon. This not being known, she was given an Ewald test breakfast at 1.45 p. m. Aspirated in forty minutes; 15 c.c.; total acidity 27; no free hydrochloric acid; pepsin 2.4 mm.

Dec. 8, 1909: Full dinner at 1 o'clock; aspirated at end of one hour and forty minutes; 30 c.c. very thick contents containing a great deal of mucus; total acidity 40; no free hydrochloric acid; pepsin 2.1 mm.

CASE 6.—Patient, C. L., female; aged 56; born in Russia; kindly sent to me by Dr. A. A. Eshner. Glucose in urine, 3.75 per cent.

Aug. 29, 1910: Full dinner, aspirated at end of two hours and forty minutes; 20 c.c.; total acidity 50; no free hydrochloric acid; no pepsin.

Ewald test breakfast, aspirated after thirty minutes; 10 c.c.; total acidity 46; no free hydrochloric acid; no pepsin.

CASE 7.—Patient, S. B., male; aged 21; born in Russia; kindly sent to me by Dr. A. A. Eshner. Glucose in urine 4.16 per cent.

Ewald test breakfast: aspirated after forty-five minutes; 45 c.c.; total acidity 86; free hydrochloric acid 50; pepsin 0.1 mm.

Full dinner: aspirated after two hours and forty minutes; 300 c.c.; total acidity 66; free hydrochloric acid 48; no pepsin.

Ewald test breakfast: aspirated after thirty minutes; 10 c.c.; total acidity 90; free hydrochloric acid 50; no pepsin.

Full dinner: aspirated after three hours; 40 c.c.; total acidity 99; free hydrochloric acid 50; 0.1 mm. pepsin.

Full dinner: aspirated after three hours; 1 pint; total acidity 96; free hydrochloric acid 60; 0.1 mm. pepsin.

TABLE OF EXAMINATIONS *

Case No.	Patient	Tests No.	Pepsin† +	—	T. A.	Free HCL	Pepsin mm.
1	L. W.	.	.	.	90	48	‡
2	A. C.	6	1	5	10	0	2.7
3	H. C.	2	2	.	44	28	4.1
4	F. S.	1	1	.	76	36	2.0
5	D. C.	2	2	.	27	0	2.4
6	C. L.	2	.	2	40	0	0.0
7	S. B.	5	3	2	99	60	0.1

* No lactic acid present in any case.

† Plus column, number of times present; minus column, number of times absent.

‡ Not determined

The total acidity and the amount of free hydrochloric acid were also determined, and tests were made for lactic acid when free hydrochloric acid was absent. No lactic acid was found. The total acidity was high in three cases and the free hydrochloric acid was high in four. Hydrochloric acid was absent in three.

It has been shown by Riegel and others that hydrochloric acid may be absent from the stomach contents for long periods of time in this disease and then reappear. Honigmann ascribed the lack of free hydrochloric acid to the increased motility of the stomach. Rosenstein was of the opinion that if free hydrochloric acid was permanently absent, it was due to atrophy of the glandular apparatus of the stomach, caused by interstitial inflammation of the gastric mucosa. Autopsy on these latter cases, however, failed to prove this view to be correct.

It is also believed that in those cases in which there is a temporary absence of free hydrochloric acid in the stomach contents the cause is a neurosis. As most of these patients have arteriosclerosis, it is possible that this condition may also have a part in the stomach functions in this disease.

In the few cases here reported it is shown that the absence of free hydrochloric acid in diabetes mellitus, as in other diseases, does not mean an absence of pepsin. On the other hand, it is also shown that a high percentage of hydrochloric acid does not indicate a good pepsin digestion.

A pepsin digestion of between 3 and 4 mm. is in my experience about the average in non-diabetic patients.

While one cannot draw any general conclusions from a small number of cases, it may be said that secretion of pepsin in diabetes mellitus is frequently reduced and sometimes absent; this observation may be added to the facts already mentioned and long known; i. e., the gastric motility is usually increased and the gastric secretion is frequently diminished in this disease.

In conclusion I wish to thank Drs. Eshner and Riesman for sending their patients to me for study and Dr. Farr for permission to examine them in his clinic.

1934 Chestnut Street.

THE ADVANTAGES OF NITROUS OXID-OXYGEN ANESTHESIA ESPECIALLY IN CONNECTION WITH ULTIMATE RECOVERY *

RAYMOND C. COBURN, M.A., M.D.
NEW YORK

As the aim of the surgeon is to record a "successful operation," not only from a scientific point of view, but from the patient's standpoint as well, the selection and administration of the anesthetic becomes more and more a matter for consideration as this branch of medical science is developed.

Until recent years the dangers of the anesthetic were considered solely those occurring on the operating-table, but laboratory investigation has established, beyond the possibility of a doubt, that a percentage of surgical mortality, heretofore considered to be due to the patient's condition, effects of the operation, etc., is sometimes due directly to the effects of the anesthetic, even though death occurs remotely from the time of the operation. Careful and extended clinical observation on nitrous oxid-oxygen anesthesia in several thousand cases, by some of the most talented surgeons of this country, completely verifies this conclusion.

The use of nitrous oxid as an anesthetic agent presents an interesting and a very peculiar history, which I shall not attempt to detail here. To Andrews, of Chicago, belongs the credit of discovering that by the addition of the proper amount of oxygen, the asphyxial symptoms of nitrous oxid are prevented without destroying its anesthetic properties.

Since this discovery was made, over forty years ago, nitrous oxid-oxygen has slowly, intermittently, but very persistently gained recognition until to-day it occupies the meritorious position of being endorsed by one of the largest and greatest scientific societies of the world, as being, all effects considered, the best means for producing anesthesia that is known.

There is a prevalent idea that nitrous oxid-oxygen is better adapted for minor surgery and short operations than for major work. This is an erroneous impression, however, for the longer this anesthesia is maintained, the better it becomes in every way. I myself have administered it throughout practically the whole range of operative procedure from a simple incision to difficult and complicated operations lasting over four hours, which is the longest period, as far as I know, wherein this anesthetic has ever been continuously administered. Dr. Frederick Hewitt, of London, a leading authority on anesthetics, says:

> There is no form of anesthesia at present known which is so devoid of danger as that which results from nitrous oxid when administered with a sufficient percentage of oxygen to prevent all asphyxial complications.

The Anesthesia Commission of the American Medical Association reported at its last session in St. Louis as follows:

> As a routine anesthetic nitrous oxid has a peculiar value, . . . (and) in the hands of highly skilled anesthetists the method is the best yet devised.

These statements are corroborated by such practical surgeons as Crile, Meyer, Kelley, Halsted and Bevan, who collectively have certainly used it in thousands of cases, and are therefore in a position to express an opinion of value as to its superior influence toward ultimate recovery.

There is much less surgical shock and postanesthetic nausea and depression with nitrous oxid than with ether or chloroform; the patient regains consciousness very quickly, and, being less depressed, recovers from the effects of the operation sooner and better.

Hamburger and Ewing, who have made an extended laboratory investigation of the effects of the narcosis produced by nitrous oxid, chloroform and ether on the blood, and whose findings are published as a part of the preliminary report of the Anesthesia Commission of the American Medical Association, say, as regards ether:

> The color index shows a rather constant drop, starting immediately after anesthesia and reaching its lowest point on the fifth and sixth days. This would indicate a relative loss of hemoglobin per cell, and again is unlike nitrous oxid results, in which the only sign of a low color index is found immediately after the anesthetic mask is removed, and which is completely gone in two hours.
>
> The volume index likewise shows an immediate loss, which is most marked in twenty-four hours, and again on the fifth to seventh days. In nitrous oxid readings the percentage volume remained unchanged throughout.

According to these investigators so short an anesthesia as fifteen minutes with ether causes a definite and demonstrable anemia, and such an effect as this, which does not begin to improve till after the fifth day, must certainly retard convalescence even in favorable cases, and in critical cases may be the determining factor in producing a fatal termination.

Chloroform produces even more destructive changes on the blood than does ether, while its degenerative action on the liver has been mentioned by so many writers that this serious and remote effect needs merely to be mentioned here.

For some time it has been recognized that ether increases the toxemia arising from infection. Recent investigation shows that this is due to the fact that ether impedes the functional activity of the leukocytes: that is, it lessens the patient's resisting power against the infection, whereas nitrous oxid exerts no such injurious effect on the blood-cells, and consequently does not lower the patient's immunity, which naturally exists. In serious cases of infection, as well as in the "borderland" cases in general, the difference in ultimate recovery under the two anesthetics is strikingly shown.

Numerous surgeons have advised against the use of ether in tuberculous conditions, as, in their experience, it causes new foci of infection to develop. This, however, is only a particular instance of the general effect produced, for, no matter what the infection may be, the toxic effect of ether on the leukocytes lessens the efficiency of Nature's effort to combat the invading host.

As is well known, ether is an irritant to the respiratory mucous membrane and to the kidneys, whereas

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* Read before the New York Academy of Medicine, Section on Orthopedic Surgery, Nov. 18, 1910.

nitrous oxid is without deleterious effect on these tissues, and is therefore strongly indicated as the anesthetic agent whenever these structures are involved, no matter what the operation may be, as in tuberculosis, pneumonia, bronchitis, laryngitis, nephritis, diabetes, pyelitis, and a host of other inflammations and infections of the respiratory and genito-urinary tracts. In fact, when you take into consideration the lessened amount of surgical shock and of postoperative discomfort and depression, the absolutely non-irritant action on the mucous membranes of the tracts involved in its administration and elimination, and the blood elements left unimpaired, its range of usefulness is so broad that it should be the anesthetic of choice, except in instances in which it is specially contra-indicated. Besides, when this anesthetic is used, there is less liability of infection occurring during, or subsequent to the operation, inasmuch as the patient is less depressed, and natural immunity undisturbed. These are practical points which every operator should carefully consider, as they are important elements, no matter how trivial each may at first appear, when considered separately, for, taken collectively, they most certainly affect the postoperative condition in every case.

It is readily granted that in the hands of the skilled anesthetist there is very little immediate danger in the use of the other anesthetics, and that, in such hands, the immediate mortality is very low indeed; but is it fair to conclude that the remote effects, much more subtle in their influence, and therefore much more difficult of detection, are consequently *nil?* Take, for instance, a case of grave infection; one of the other general anesthetics is faultlessly administered, but the surgeon's mortality is increased, and every surgeon of wide experience encounters some such cases. In the light of this research can it be said that the anesthetic did not contribute to the fatal result, or that the patient might not have been saved had a less toxic and less depressing agent, and one which did not lessen the patient's natural resisting power, and decrease the life-sustaining function of the blood-cells, been used? It is not contended that this form of anesthesia saves all patients of this class, but, in the language of Crile, "Not a patient showed the rapid march to fatality immediately following the operation which occasionally follows ether." Why the conspicuous absence of that "rapid march to fatality?" Simply because the patient is given a new and firmer hold on life, enabling some to recover that otherwise would simply increase the mortality. I very readily assent to the observation of Gatch that "very sick patients, with a rapid pulse and quick, shallow respiration, actually seem benefited by this form of anesthesia." That is, such patients will, during an operation under this anesthesia lasting for forty-five minutes to an hour, manifest a distinct improvement in the rate and quality of the circulation and respiration, both during and subsequent to the operation, the effect being quite permanent, as it is not a mere stimulant.

From the patient's point of view the lessened amount of postoperative discomfort alone is sufficient to call for this anesthetic, as he usually dreads the subsequent nausea, vomiting and depression more than the effects of the operation itself. Besides, when a patient can be told that he is simply to be given "laughing-gas" it allays to a very great extent the fear and dread of the anesthetic, and many patients will submit to operations under this agent who would otherwise refuse all operative intervention.

It is a matter of no little comfort to the patient and to his family to know that complete consciousness returns so quickly after the operation is completed, and especially is this so, when, as in the majority of cases, there is freedom from postnarcotic discomfort, and a pleasant impression is left on the mind by the "laughing-gas." For a patient to be returned from the amphitheater to his own room completely conscious, smiling and talking to his nurse and friends, even after a prolonged operation, presents a different picture from that usually seen with other anesthetics, and gives a distinct advantage in convalescene. I cite just one case to illustrate: Dr. X. of a neighboring state was anesthetized for a rectal operation, necessarily requiring deep anesthesia. Within a very short time after the administration of the anesthetic was stopped he opened his eyes and said with a smile to those in attendance: "Well, if you folks had as good a time as I did, you certainly enjoyed this operation." He had had a dream about being at a big fire. Some time afterwards he said in a private letter to me: "You simply make anesthesia a pleasure." To have an intelligent patient, and especially a practitioner of wide experience, consider the taking of the anesthetic as a genuine pleasure is certainly valuable testimony to the great advantage offered by this anesthetic.

It is almost imperative to use a preliminary hypodermic injection of morphin and atropin about one-half hour before the time of the operation, as this medication aids very materially in securing muscular relaxation. Besides, the patient recovers from this anesthesia so quickly that it is usually indicated for the postoperative pain alone. When it is used the patient's nerves are quieter and he approaches the operation with more confidence and less fear—an important element in every case. In that class of patients or operations, in which it is difficult to overcome muscular rigidity the addition of a very small amount of ether—not sufficient to give the ether after-effects—in conjunction with the nitrous oxid and oxygen will secure the necessary relaxation. Used in this way, nitrous oxid-oxygen is a pleasant anesthetic for even the most fastidious patient, fulfils the requirements of both minor and major surgery, and produces the lightest and least toxic general anesthesia yet discovered.

616 Madison Avenue.

PRIMARY SARCOMA OF THE STOMACH WITH AUTOPSY FINDINGS *

O. W. H. MITCHELL, M.D.
COLUMBIA, MO.

Sarcomas of the stomach are rare, and, beyond the mention of this fact one finds little discussion of the subject in most text-books of pathology. Therefore, all cases which are substantiated by microscopical study should be reported so that our knowledge regarding the pathology and symptomatology of this condition may be increased. For these reasons I report the following case:

History.—The patient, E. R., a white woman aged 72, was in the services of Drs. J. E. Thornton and M. D. Lewis, of Columbia, Mo., and the following history was given me by the former. The patient's husband died of cancer of the face. She had been healthy until two years ago when she began to decline. About one year ago she began to suffer pain in the region of the spleen which gradually increased. She had been in bed only about one month. A tumor mass was palpable in the epigastric region. The patient was very anemic but quite fleshy. The clinical diagnosis was cancer.

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* From the Pathological Laboratory, University of Missouri.

Necropsy.—Woman, well preserved for her age. The hair of the head and pubis was gray. The skeletal system was moderately heavy and the musculature was light. The subcutaneous layer of adipose tissue was quite thick and of a good color. All of the thoracic and abdominal viscera were normal except the stomach. Involving the pyloric end of the stomach was an annular tumor measuring 5 inches in diameter and ½ an inch thick in places. The diffused tumor was covered with mucous membrane except for a surface measuring about 2 inches in diameter. The tumor was very firm and the cut surface was smooth and glistening white in color. There were no evidences of metastatic growths in the lymph-nodes or in any of the organs. Although the patient did not look especially "cancerous" and the gross findings were far from being typical for such a condition, a provisional diagnosis of carcinoma of the pylorus was made. The microscopic examination showed the tumor to be a small round-cell sarcoma. There was little stroma and many mitotic figures were present. In sections showing the mucous membrane the tumor cells could be seen invading the subepithelial connective tissue.

A good article on sarcomas of the intestinal tract with splendid compilation of statistics was written by Corner and Fairbank.[1] In the 178 reports of cases collected from the literature, fifty-eight cancers were of the stomach. There was only one portion affected more. the small intestines. There were sixty-five occurring in this region. Corner and Fairbank found the cases about equally divided as to sex, males twenty-six, females twenty-nine. The most common age was between 40 and 50 years. The youngest patient was 3½ years old and the oldest 78. They found 36 per cent. located at the pylorus. About 60 per cent. of gastric carcinomas are located at the pylorus. The following points given by them might be of value in differentiating sarcoma from carcinoma of the stomach: "The rapid course with marked anemia, the absence of hematemesis or gastric dilatation, the presence of a large tumor, and, possibly, the age of the patient." Of fifteen patients operated on. four were reported living after four, five, twelve and twenty-four months respectively since operation.

THE ADMINISTRATION OF SALVARSAN

DOUGLASS W. MONTGOMERY, M.D.
Professor of Diseases of the Skin, University of California
SAN FRANCISCO

One-third by weight of salvarsan is arsenic, and therefore in administering 0.6 gm., which is an ordinary dose, we are giving the patient 0.2 gm. of arsenic, or fifty times the amount that in the usual pharmaceutic combinations would cause poisoning. It is through the genius of Ehrlich that a way has been found to give this enormous dose, and almost always without causing any disagreeable symptoms, with the exception of pain—and even pain may be eliminated by injecting the drug intravenously. That great care must be observed in giving it goes without saying.

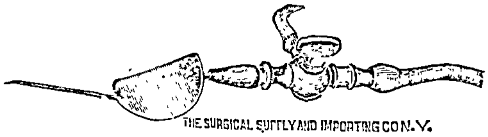
The drug is put up as a dry powder, enclosed in glass tubes, and in this form is stable; at least I have never yet heard of any trouble arising from its decomposition in the tubes. In solution, however, it quickly decomposes; in simple water it forms an acid solution that lasts undecomposed for several hours, probably for a day. As an alkaline solution, however, it quickly decomposes, and shortly turns wine red. The drug is administered either suspended in oil or as a solution, and must be made up fresh at each time of using. I have never seen it suspended in oil, but Neisser has so given it, and has advised oil of sesame as the best oily medium.

The acid watery solution of the drug is very painful when injected, and should first be made either alkaline or neutral. The care and trouble attendant on dissolving, alkalinizing, and again neutralizing the drug, and the further trouble of injecting it either subcutaneously, intramuscularly, or intravenously, and the pain, and occasional local necrosis caused when given subcutaneously, have impelled clinicians to adopt numberless modifications in technic. The best results I have seen, however, have been attained by comparatively simple methods.

THE INTRAMUSCULAR INJECTION OF SALVARSAN

Alt was the first to employ the drug clinically, and his method, as I have seen it in Lesser's clinic, is painful, as all these methods are, but it is simple and effective, and has not up to the present, in Lesser's hands, caused necrosis or abscesses. He has so used it in a great many cases, but he always taps wood when he speaks of his good luck.

He first takes salvarsan, 0.5 or 0.6 gm., and warm water, 5 or 6 c.c., and mixes them together in a glass-stoppered, graduated glass cylinder with glass balls to facilitate solution. He then adds 3 c.c. of sodium hydroxid (4 per cent. sol.), and again shakes well, adding drop by drop more of the sodium hydroxid solution till the solution in the glass cylinder is nearly clear. Normal salt solution may be added up to the 10 c.c. mark, and this is then injected into the gluteus. This should not be repeated before four or six weeks have elapsed.



Needle used by Schreiber, having a bayonet bend in the shaft with a ribbed finger-hold for guiding the needle in intravenous injection, together with the two-way cock betweeen the needle and the barrel of the syringe.

The same solution may be injected subcutaneously, usually under one or other shoulder-blade. There is, of course, more risk of an ensuing necrosis when injecting subcutaneously, than when injecting intramuscularly into the gluteus. The gluteus seems to be especially fitted to receive insults.

THE INTRAVENOUS INJECTION OF SALVARSAN

If Ehrlich's ideas in regard to the sterilization of the body are to be carried out, there is no doubt that the intravenous is the only correct method of administering salvarsan, as in neither the subcutaneous nor the intramuscular method is it possible to tell how soon the dose will be absorbed. By the intravenous method the medicine is given in a manner that insures the rapid diffusion of the full dose, without running the risk of ensuing necrosis, or abscesses, or of chronic arsenical poisoning from prolonged absorption. As far as pain is concerned, there is only the insignificant prick of the needle

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[1] Corner and Fairbank: Practitioner, 1904, lxxii, 810.

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At the kind suggestion of Professor Ehrlich I went to Wiesbaden to see Professor Weintraud, and to Magdeburg to see Dr. Schreiber. The only practical difference between these two is that one employs pressure by gravity, while the other uses a specially constructed syringe. I shall give Dr. Schreiber's method, as it seemed to me to be superior in some rather important details.

THE PREPARATION OF THE SOLUTION FOR INJECTION

About 20 c.c. of warm distilled water are poured into a graduated glass cylinder of a capacity of 250 c.c. This cylinder should have a glass stopper.

The glass capsule containing the salvarsan powder is now wiped off with gauze soaked in alcohol, and then with gauze soaked in ether. After breaking the capsule, the powder is poured on the water in the graduated glass tube, the stopper put in, and the contents well shaken. There is no necessity of using glass balls here, as the quantity of water is ample to dissolve the salvarsan readily.

It is important not to reverse this procedure, for if the powder is poured into the tube first, and the water afterward, a gummy mass forms in the bottom that dissolves with difficulty. This solution should be light yellow, and perfectly clear. That it should be clear is a matter of very great importance, as it is highly necessary that no undissolved particles be present.

Now we have an acid solution in sterilized water of the contents of one tube, the quantity of which is usually 0.5 or 0.6 gm. If it is 0.5, the graduated tube should be filled up with water to the 50 c.c. mark; if 0.6, to the 60 c.c. mark, so that each 10 c.c. will represent 0.1 of the drug.

Dr. Schreiber usually gives 0.3 gm. of salvarsan to a woman, and 0.4 gm. to a man. If it is desired to give 0.4 he pours 40 c.c. of the acid solution into another graduate furnished with a glass stopper, and fills up to the 200 c.c. mark with warm sterilized water, and to this adds about 20 c.c. of normal sodium hydroxid solution. Normal sodium hydroxid solution is a 4 per cent. solution of sodium hydroxid in water. This should be added a little at a time, and each time a little is added the glass stopper should be put in, and the cylinder well shaken. At first a precipitate forms, that gradually disappears on the addition of more caustic soda solution. When the solution is again clear, it is alkaline and ready for injection.

The flask containing the sterilized distilled water for use in making the solutions should not be stoppered with cotton, but with gauze, as cotton fibers, falling into the fluid, might cause trouble.

SYRINGE FOR INJECTING

The best syringe for injecting is a glass Lüer of about 20 c.c. capacity. It should not have a metal plunger, as in that case the least blood may cause binding. A two-way cock is introduced between the needle and the barrel.

Dr. Schreiber has a special needle made with a bayonet bend in the shaft, and on this bend a ribbed finger-hold. The bayonet bend is to allow the needle to be more easily shoved along in the lumen of the vein. A rubber tube is fitted to the lateral outlet of the two-way cock.

INTRODUCTION OF THE NEEDLE

The arm is now laid out on a cushion, so as to lie flat and easy; a stout rubber tube is thrown around the middle of the upper arm and drawn tight enough to stop the flow of blood in the superficial veins, but not so tight as to impede the arterial supply, and fastened with artery forceps or a wooden clip. It is very necessary that the arm should lie easy and still. The seat of operation should be wiped off with gauze soaked in alcohol.

About 4 c.c. of normal salt solution are drawn into the syringe, so that by running the plunger forward the air may be expelled from the needle and from the rubber tube attached to the outlets of the two-way cock.

Now the needle is inserted through the skin over a vein, and run along into the vein. When the needle enters the vein a little blood flows back into the normal salt solution in the syringe. If the plunger is pressed forward, the salt solution entering the vein will distend it a little, and when it does so, the tourniquet band about the arm may be removed, and the vein will collapse.

The insertion of the needle is a very important step in the operation. For instance, by blood flowing back into the syringe, it is known that the needle has entered the vein. Weintraud insists that the blood should flow freely from the needle, but in his method the needle is first inserted into the vein, and afterward the rubber tube conveying the salvarsan solution from the funnel-like cylinder, is attached to it.

The syringe, still containing a little salt solution, and with its needle lying in the vein, is now ready for injecting the fluid, which is held in a glass beaker so that the rubber tube attached to the lateral opening of the two-way tap drops into it. The instrument is free of air so that there is no fear of air embolus. By turning the cock of the two-way tap, the salvarsan solution may be alternately sucked up into the syringe, and forced into the vein. When the salvarsan solution is almost exhausted, a little normal salt solution is thrown into the beaker, and also injected into the vein. This is to clear away any of the salvarsan solution that would otherwise trickle out into the tissues, on withdrawing the needle.

A very important matter in this part of the operation is the injection of the small quantity of normal salt solution, both before and after injecting the salvarsan. By injecting the normal salt solution at first, one makes sure that the needle is in the vein, for if it is not in the vein, the injected fluid makes a little infiltration in the subcutaneous tissue, while if it is in its proper position, the already distended vein grows a little larger. If this sign should fail, there is still a symptom showing that the needle is not in place, for as soon as a little of the salvarsan enters the subcutaneous tissue the patient will experience a burning pain, in which case the needle should be immediately withdrawn, and free bleeding induced from the punctured wound. Another vein should then be chosen for the injection. Any subcutaneous vein that can be distended may be chosen, and in fleshy women Dr. Schreiber has even injected into one at the wrist. Sometimes when the vein cannot be seen, it may be felt.

The fluid should be injected slowly, say in five or six minutes, so as to avoid sudden overloading of the circulatory system.

Although the description of the operation is long, tedious, and complicated, yet the performance is very simple, and the patients experience very little inconvenience. They should remain twenty-four hours in bed.

When I was in Magdeburg Dr. Schreiber had given intravenously one dose of salvarsan to each of 155 patients; he had given two doses to each of 622 patients; and intramuscularly he had given one dose to each of 83 patients; making a total of 860 patients treated. Up to that time, he told me, he had had no serious trouble consequent on the use of the drug, and this statement, from what I have seen of his clinic and his personality, I fully believe. That trouble may follow the use of this remedy goes without saying; we are dealing with arsenic.

Whichever method is adopted, all instruments should be carefully sterilized as the irritant metal and germs make a highly septic combination. Salvarsan is probably no more antiseptic than Fowler's solution, in which, as is well known, fungi will grow freely.

In making the solution, glass stoppers should be used for the cylinders, as cork stoppers in contact with sodium hydroxid solution make a brown fluid, which at least looks dirty.

If it is desired to neutralize the fluid for injection after it is alkalinized with sodium hydrate solution, this is best done by adding, drop by drop, a 1 per cent.

glacial acetic acid solution. The neutral point may be determined by letting a drop of the fluid fall from the tip of a glass rod on litmus paper.

If the more concentrated solution for intramuscular injection is desired, and glass balls are not obtainable, the powder may be rubbed up with water in a mortar. The glass balls, however, are preferable.

THE TREATMENT OF DRUG ADDICTION

ALEXANDER LAMBERT, M.D.
NEW YORK

The statements which I made in my former article[1] concerning the efficacy of the treatment to obliterate the craving for narcotics have been confirmed, and this treatment is to-day the most successful method which I have yet found for the obliteration of the craving for morphin, opium, cocain, alcohol, or tobacco. I have endeavored to simplify the method, and have succeeded in some measure; the same combination of drugs is used, and only the details of their administration have been changed. The plan which I have found to be most effective, and most easily followed by others, is as follows:

The belladonna mixture of two parts 15 per cent. tincture of belladonna, and one part each of the fluid extracts of hyoscyamus and xanthoxylum, has proved itself an essential part of the treatment. When the 10 per cent. tincture of belladonna has been used, or when even a 12 per cent. tincture has been employed, the results obtained were not clear-cut, but left the patients with an indefinite nagging longing for their narcotic. It seems necessary to push this mixture to the physiologic tolerance of the belladonna. This tolerance, of course, varies with the individual, and some of the best results have been obtained with patients who could not tolerate as an hourly dose more than from 2 to 4 drops of this mixture while others easily tolerated from 18 to 20. It would seem, judging from clinical results, that there are some properties in this mixture which are necessary to a successful carrying out of the treatment. The bottle containing this mixture must be kept well corked, and shaken before using. The method which I now pursue is as follows:

A patient addicted to morphin is given five compound cathartic pills and 5 grains of blue mass, and six hours later, if these have not acted, they are followed by a saline; after three or four abundant movements of the bowels from these cathartics, the patient is given, in three divided doses at half-hour intervals, two-thirds of the total daily twenty-four-hour dose of morphin or opium to which he has been accustomed. Observe carefully after the second dose has been given, as the amount then equals four-ninths or nearly one-half the total twenty-four-hour dose. Some few patients cannot comfortably take more than this amount. At the same time with the morphin, 6 drops of the belladonna mixture is given in capsules. This belladonna mixture in doses of 6 drops (and by drops I do not mean minims, I mean drops dropped from an ordinary medicine dropper, which is about half a minim dose) is given every hour for six hours. At the end of six hours the dosage is increased 2 drops. The belladonna mixture is continued every hour of the day and every hour of the night continuously throughout the treatment, increasing 2 drops every six hours until 16 drops are taken, when it is continued at this dosage; it is diminished or discontinued at any time if the patient shows belladonna symptoms such as dilated pupils, dry throat or redness of the skin, or the peculiar and incisive and insistent voice, and insistence on one or two ideas. It is begun again at reduced dosage after the above symptoms have subsided.

At the tenth hour after the initial dose of morphin is given, the patient is again given five compound cathartic pills, and 5 grains of blue mass. These should act in six or eight hours after they have been taken. If they do not act at this time some vigorous saline is given, and when they have acted thoroughly the second dose of morphin is given, which is usually about the eighteenth hour. This should be one-half the original dose; i. e., one-third of the original twenty-four-hour daily dose. The belladonna mixture is still continued, and ten hours after the second dose of morphin has been given, that is about the twenty-eighth hour, five compound cathartic pills are again given and 5 grains of blue mass, these again if necessary followed by a saline seven or eight hours later. At times when the C. C. pills are not acting well, or too slowly, five or six "B. B." pills are given from two to three hours after the C. C. pills. These "B.B." pills are the pilulæ catharticæ vegetabiles of the Pharmacopeia with 1/10 gr. oleoresin of capsicum, ½ gr. ginger, and 1/25 m. of croton oil added to each pill. After these have thoroughly acted at about the thirty-sixth hour, the third dose of morphin is given, which is one-sixth of the original dose. This is usually the last dose of morphin that is necessary. Again, ten hours after this third dose of morphin, i. e., the forty-sixth hour, the five C. C. pills and 5 grains of blue mass are again given, followed seven or eight hours afterward by a saline, and one expects at this time to see the bilious green stool appear. When this appears, after the bowels have moved thoroughly, ten or twelve hours after the third dose of morphin, about the fifty-sixth hour, 2 ounces of castor oil are given to clear out thoroughly the intestinal tract. During this last period when the bowels are moving from the C. C. pills and before the oil is given, the patients have their most uncomfortable time. Their nervousness and discomfort can be controlled usually by codein, which can be given hypodermically in 5 grain doses and repeated if necessary, or some form of the valerianates may help them. About the thirtieth hour these patients should be stimulated with strychnin or digitalis, or both. After they are off their drug, I have found that the tonics which do them the most good are those which contain some form of phosphorus and arsenic, and I must reiterate as before the danger of these patients overeating, and thus bringing back all their withdrawal symptoms due to the disturbance of digestion. They have been in the habit of referring all uncomfortable feelings to those of the withdrawal symptoms of morphin, and digestive disturbances feign these withdrawal symptoms. Sometimes about the thirty-sixth hour the stools became clay-colored. Some form of prepared ox-gall is most effective to stimulate further biliary secretion given in small doses every hour for five or six doses.

In treating an alcoholic, the belladonna mixture and the five C. C. pills and 5 grains of blue mass are given simultaneously at the first dose. The belladonna mixture is continued every hour of the day and every hour of the night the same as with the morphin patients, and twelve hours after the initial dose patients are again given from three to five C. C. pills, and at the twenty-fourth hour after the initial dose, they are again given the cathartics followed by salines if necessary, and again at the thirty-sixth hour. After these last cathartics, the bilious stools will appear, and by the forty-fourth or forty-fifth hour the castor oil is given. Sometimes it is necessary to carry on the treatment over another period, and the C. C. pills and blue mass are again given at the forty-eighth hour, which would bring the end of the treatment about the sixtieth hour.

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[1] The Obliteration of the Craving for Narcotics, The Journal A. M. A., Sept. 25, 1909.

Elderly or very nervous patients who have been on a prolonged debauch are tapered off with 2 ounces of whiskey for four or five doses through the first twenty-four hours. If these patients are excessively nervous it is necessary also to see that they sleep, and the mixture of chloral hydrate, gr. xx, morphin, gr. 1/8 tincture of hyoscyamus dram 1/2, ginger m. x and capsicum m. v, water 1/2 ounce, which was recommended before is the best hypnotic for them. These patients should also have cardiac stimulants such as strychnin and digitalis after the first twenty-four hours, sooner if they are weak. If the patient has an alcoholic gastritis and cannot retain medicine, it is wise to give him 5 grains of Tully's powder (pulvis morphinæ compositus) with 5 grains of sodium bicarbonate about every two hours for two or three doses, as this seems to be the most effective method of allaying the vomiting of an alcoholic gastritis.

The cocainist can be treated like the alcoholic, except that no cocain is given at any time, and strychnin or some such stimulant must be given from the beginning of the treatment.

I have often been asked as to the permanency of this treatment, and I can but repeat that most morphinists desire to be rid of their addiction and that when once the withdrawal symptoms are passed and the craving for the drug has ceased, they are only too glad to be free from their slavery. If the cause for which they originally took the opiate is removed, in the majority of cases they will not return to their drug. With the alcoholic it is different, although this treatment is the best one I have yet found to eradicate thoroughly and in a short time all desire for alcohol and to stimulate him mentally and leave him in a condition in which he can exist without his customary stimulant. Alcoholism is a social vice and not a secret one, as is morphinism. Most men cannot bring themselves to realize that they cannot take a single drink and cannot drink in moderation as they see other men do, and it sometimes takes two or three bitter lessons before they are willing to acknowledge this to themselves. When once they realize it and acknowledge it to themselves as well as to others, they will not take alcohol, but there is no compromise with them. They cannot take a single drink of any form of alcohol without the danger of going back to alcoholic excess.

Since publishing my first article I have treated many patients addicted to morphin, cocain and alcohol, and the results obtained with these patients, as well as the reports from many sources obtained through an enormous correspondence, have confirmed me in my conviction that this treatment will more effectually obliterate the craving for narcotics, in the shortest time and leave the patient in better condition to recuperate to vigorous health, than any other treatment that has yet come to my knowledge. It is a treatment of many details which must be adhered to if success is to follow. But my experience justifies me in saying that if these details are adhered to, success will follow.

36 East Thirty-First Street.

A GROUP OF SYPHILITIC PATIENTS TREATED WITH SALVARSAN (EHRLICH-HATA 606)

OLIVER S. ORMSBY, M.D.
CHICAGO

This group of cases includes chiefly those of dermatologic interest. At the time the work was done, the method of administration as recommended by most experimenters was by subcutaneous injection of an emulsion of the drug according to the Wechselmann method. After the first group of injections had been made subcutaneously in emulsion by this method, Dr. Flexner requested that the intramuscular method be employed, using a solution according to the method of Lesser. The second injection given in Case 7 and the one given in Case 8 were therefore made in this manner.

The cases included a well-defined macular, a papulopustular, a corymbose, a large flat papular, a deep gummatous (bones and deeper tissues) and an ordinary gummatous syphiloderm, and two in which early nervous lesions were exhibited. The patients were all examined for any contra-indications relative to heart, lungs, kidneys, etc., by Dr. Joseph L. Miller, and as to eye complications by Dr. E. V. L. Brown. This work was controlled by the Wassermann reaction repeatedly made, and by blood-counts; and finally was undertaken with the view of ascertaining the result obtainable with a single injection of a comparatively large dose of the drug. They have been under observation for more than three months, so we can now determine what the result is with a single dose in these cases. I am indebted to Dr. H. J. Nichols and Dr. Simon Flexner for the material (drug) used, and to Dr. J. Frank Waugh for valuable assistance in the preparation of the remedy and making the Wassermann reactions, and Dr. Nilsson, House Surgeon at the County Hospital, for assistance in many ways.

In view of the enormous literature already at hand, it is my purpose only to record results, as it is by the accumulated results in patients actually treated in many parts of the world, that deductions will finally be drawn both as respects the drug itself and its method of administration.

Most of these patients were treated at the County Hospital, where they were entered in my service, and most of them remained two months or more to complete the preliminary observations.

REPORTS OF CASES

Case 1.—Gummatous and ulcerative syphilis (hereditary). M. W., a woman aged 23, entered the Cook County Hospital Oct. 18, 1910; duration of the disease in its present form, twelve years.

History.—The patient was apparently healthy until twelve years previously, when (as stated by the patient) following vaccination the lesions to be described began to appear. During the twelve years the lesions had periods of activity and retrogression. Ulcers appeared and healed, with new ones occurring. The distribution was fairly general. Head, face, arms and limbs had all been attacked and the deformity was marked and characteristic. The bones in all of these regions showed deformity.

Examination.—At the time of administration of salvarsan the patient presented the following appearance: Small, elderly-appearing, with scars, ulcers, deep nodules and discharging sinuses over most of the body; mentality below par.

Regional:

Head: The entire scalp presented a mass of deep ulcers, pus-discharging sinuses and heavy crusts. In many places bone involvement was evident. The face presented deep funnel-shaped openings, extending on the right side into the malar bone; a similar lesion present on the left side; marked ectropion of right lower eyelid due to contracture from a scar below. Eyes: Pupils small, but reacted normal; negative otherwise. Mouth: Palatal arch high and narrow. Teeth: Several missing, remainder more or less loose and carious. Nose flat and depressed; nasal septum eroded. Neck: Enlarged glands on either side.

Trunk and Genitals: No cutaneous or deeper lesions.

Upper Limbs: Bones of both forearms deformed; irregular deep depressions present, many scars and ulcerated areas, and some deep sinuses; joints enlarged, deformed and limited in motion; small joints of hands also involved; glands of axillæ enlarged.

Lower Limbs: Tibiæ deformed. Typical deformity of bones (enlarged and bowed); large ulcers and deep sinuses on both sides; a typical luetic ulcer present in right ankle the size of one's palm.

Urine: Cloudy, straw-colored, specific gravity 1.021, acid in reaction; albumin present abundantly; no sugar; microscopic examination revealed granular casts, a few epithelial cells and a few leukocytes; no erythrocytes; mucus moderately present. Wassermann, October 19, +++.

October 20, 0.45 gm. salvarsan was injected beneath scapulæ, dividing the dose into two parts, one-half given on either side.

General examination revealed no particular contra-indications. The patient had been habitually restless and sleepless at night.

Progress and Comments.—The urinary findings under some conditions would have been a contra-indication for the treatment, but in view of the probable luetic kidney involvement, it was not so considered in this case. The progress toward recovery following this injection was remarkable. No local reaction of moment occurred. There was a very moderate systemic reaction. After the first night the patient slept well and rapidly gained in weight. Her mental condition changed from that of a dull, morose individual to a happy, smiling and much younger-appearing woman. Pain entirely ceased; ulcers and sinuses healed and clinically the patient recovered rapidly. The Wassermann reaction remained strongly positive throughout the entire period of observation. Three months after the injection the patient had not entirely recovered, for a few small lesions remained. At this time more treatment was indicated. The Wassermann record is as follows:

October 19, just previous to the administration of the drug, it was strongly positive, +++. October 24, strongly positive, +++; November 12, strongly positive, +++; December 6, strongly positive, +++; December 20, strongly positive, +++; Jan. 20, 1911, strongly positive, +++.

Case 2.—*History.*—Varioliform, papulo-pustular syphiloderm. The patient, L. S., a man aged 28, entered the Cook County Hospital, Aug. 23, 1910. The eruption was generalized and typical. The remains of the initial lesion were present. There was general adenopathy. From the date of admission until the administration of the special treatment, hygienic care was exercised. During this time, about two months, the lesions changed their type, becoming entirely papular, but fully as abundant in number as originally. The urinary examination revealed no abnormalities.

Treatment.—October 20, ophthalmologic and general examinations revealed no contra-indications for the treatment. The Wassermann reaction was strongly positive, +++. A dose of 0.5 gm. salvarsan was injected, using the technic as outlined above. This patient suffered sufficient pain to warrant an injection of morphin, gr. ¼, at 9 p. m., five hours after the administration of the salvarsan. Subsequent to this nothing unusual occurred. No indurations remained at the seat of the injection.

Progress and Comments.—After forty-eight hours the lesions were clearing more rapidly than before. Resolution continued for about two weeks, when a recrudescence occurred and during the following three months new lesions kept constantly appearing. The entire number naturally decreased, but the disease was still clinically active. The Wassermann record is as follows: October 24, positive,, ++; November 12, positive, ++; December 20, strongly positive, +++. It is needless to state that more treatment is necessary.

Case 3.—*History.*—Papular syphiloderm. The patient, H. S., man aged 42, entered the County Hospital Sept. 24, 1910. The patient had a fairly generalized, ordinary flat papular syphiloderm, accompanied by general adenopathy.

Examination and Treatment.—October 24, the day of injection with salvarsan, the general examination revealed pulmonary emphysema, but no other complications. The eye-findings were negative. The urinary-findings were negative. The blood-findings showed moderate leukocytosis, 14,050 W. B. C. The Wassermann reaction was positive, +++. Salvarsan, 0.5 gm., was administered. The immediate and later results were not striking. The cutaneous lesions cleared for about two weeks, but recrudescence kept up for the following two months. The Wassermann record is as follows: October 24, strongly positive, +++; November 12, strongly positive, +++.

November 22, the date of departure from the hospital, the disease was still active, though much less so than at the beginning, and more treatment was strongly indicated.

Case 4.—*History.*—Corymbose syphiloderm. The patient, a man aged 35, was admitted to the County Hospital, Sept. 21, 1910. The duration of the eruption at that time was two months; there was a clear history of an initial lesion, and general adenopathy was present. The lesions were generally distributed and typical.

Examination and Treatment.—October 21 a general examination revealed an enlarged liver, but no other findings. The eye-findings were negative; urinary analysis, negative; Wassermann, +++. October 29, 0.5 gm. of salvarsan was administered.

Progress and Comments.—The lesions began to disappear fairly rapidly, but within two weeks new ones occurred, so that the new ones about kept pace with the clearing lesions. New lesions were still appearing, three months after treatment. The Wassermann record is as follows: October 29, strongly positive, +++; November 12, strongly positive, +++; December 6, mildly positive, +; December 20, positive, ++; Jan. 20, 1911, mildly positive, +.

That more treatment must be given is evident.

Case 5.—*History.*—Macular syphilid, ordinary type. The patient, a man aged 23, entered the County Hospital, Sept. 29, 1910. The initial lesion occurred seven weeks previously. A fairly general exanthem, macular type, was present, chiefly on the trunk. General adenopathy was present. This was a typical and ordinary case.

Examination and Treatment.—Just before the administration of the special treatment the urine was found to be normal. The general examination and ophthalmologic examination were both negative as to pathologic findings. October 22, 0.5 gm. salvarsan was administered at 4:30 p. m. At 10 p. m. morphin, ¼ gr., was administered. No local or systemic reaction of moment occurred.

Progress and Comments.—This patient remained in the hospital for three weeks after the treatment. During this period no perceptible change occurred. The exanthem was gradually fading. The Wassermann reaction just previous to the injection was strongly positive, +++. After three weeks, before leaving, it was strongly positive, +++. This patient agreed to return, but failed to do so.

Case 6.—*History.*—Gummatous and ulcerative syphilis. The patient, M. H., a married woman aged 32, entered the County Hospital, Oct. 16, 1910. Three days previously 0.5 gm. of salvarsan had been administered at the clinic in Rush Medical College. The general examination and special examinations had been made there, including a Wassermann reaction, which was positive. This patient was generally weak, had lost weight, was anemic and had two typical deep areas of gummato-ulcerative lesions, one on the forehead involving the frontal bone, and one over the left shoulder.

Progress and Comments.—The nutrition immediately improved. The lesions healed rapidly until the forehead lesion cleared up. The one over the shoulder healed more slowly. The Wassermann reaction remained positive until her departure, five weeks after admittance. In this patient the cutaneous and subcutaneous lesions yielded, but not any more rapidly than they do under ordinary treatment. The nutritive effect was perhaps more marked, but even that is open to question.

CASE 7.—*History.*—Cerebral syphilis and incipient tabes. The patient, a man aged 37 (private patient), was first seen Jan. 12, 1910. The initial lesion occurred in March, 1901, followed by a macular eruption of short duration. During the first year the treatment consisted in the protoiodid of mercury eight weeks at a time, followed by eight weeks of rest during the entire year. In the second year three courses, of four or five weeks' duration each, of the succinimid of mercury, were employed by intramuscular injection. In the third year mixed treatment, including some injections, some potassium iodid, and Bernheim pills, was employed. From then until 1909 a moderate amount of mixed treatment was employed each year. During the second year after infection an incomplete attack of hemiplegia occurred. This involved the left side of the body, but rapidly cleared up. In 1905 a deep ulcer occurred in the tonsillar region, following the removal of this organ for a cervical adenitis. This ulcer healed under mixed treatment. Then for four years no symptoms occurred. In October, 1909, paresis of the external rectus muscle occurred. Energetic treatment with inunctions and potassium iodid made no change in this condition for some time. January 12, when I saw the patient, the above paresis was still present and there were some scorching, intermittent pains in the skin over the left breast. On this date, the findings led to the conclusion that the patient was suffering with cerebral lues, with probably incipient tabes. A Wassermann test at this date was negative (probably influenced by treatment). February 24, pains were noted in both sciatic nerves, also aching pains in both calves; slight unsteadiness in gait, numbness of left ring and little fingers, left cheek and left side of the roof of the mouth; patellar reflexes abolished.

April 24, treatment was suspended on account of saturation. May 9, oculo-motor paresis of the right eye shown by ptosis, dilated pupil and paresis of accommodation of 1 diopter. By May 31 this condition had largely cleared up. June 11 a similar condition arose in the left eye. Treatment during 1910 up to October consisted in injections of salicylate of mercury, potassium iodid and ferruginous tonics. October 28, 0.5 gm. of salvarsan was injected subcutaneously in emulsion.

Examination.—The condition on this date was as follows: Slight Romberg, unsteady gait, patellar reflexes abolished, bladder weak, obstinate constipation, girdle sensation, numbness of soles of feet, left side of face and left hand, intermittent scorching pains in the back; single vision looking straight ahead, but paresis shown by looking to either side, up or down; paresis of both eyes, 1 diopter. Wassermann, positive, +++. Urine, negative.

Progress and Comments.—Following the first injection of salvarsan, great improvement in the general health occurred. The patient gained several pounds in weight in a few weeks; pains all cleared up, gait became steadier, Romberg less marked and bladder stronger; focal symptoms, however, were unchanged. December 15, eye symptoms became exaggerated, and on December 21 a second injection of 0.6 gm. of salvarsan was given in solution into the gluteal muscles, according to the method of Lesser. The Wassermann reaction was still positive. January 27 all symptoms were improving slowly; the Wassermann reaction slightly positive, +.

That the treatment did much for this patient there is no doubt. Much longer observation is necessary to determine the necessary procedure.

CASE 8.—Spinal meningitis (luetic) and tabes. The record of this case is incomplete, but it is included here on account of the fact that of the group this was the only patient who had a systemic reaction.

A general examination of the patient was made before the treatment, and the eyes were examined at the Presbyterian Hospital. December 28 0.5 gm. of salvarsan was injected intramuscularly according to the method of Lesser. On the second day the temperature rose to 103 F., and on the third day to 103.5, and after the fourth day rapidly subsided and the patient left the hospital.

Progress and Comments.—This case is interesting owing to the systemic reaction indicated by the marked elevation of the temperature. There was no nausea; the patient was not particularly ill and apparently recovered rapidly from the attack. His physician reported thirty days after the treatment that the patient was much improved. It was impossible to get another specimen for a Wassermann reaction. This reaction was moderately positive before the original injection.

As will be seen by a study of the above case-reports, marked effect is produced on the disease by this remedy, the most striking in this series being in the case with deep gummatous and ulcerative lesions involving bones and deep structures. The relief of pain, the great increase in the general nutrition of the patient, and the rapid healing of the lesions were striking.

In none of the cases did any untoward results occur. In one only was there any local reaction of any moment and that consisted in an induration which still remains. In three cases an injection of morphin for pain was administered the first night. In none of the others was the pain sufficient to require any sedative. In one case marked elevation of temperature occurred on the second and third days (Case 8). In all of the cases of early syphilis the disease was well advanced and well marked, showing a complete saturation of the patient with the infection. In judging the value of the treatment this fact must be borne in mind.

METHOD OF ADMINISTRATION

The major portion of these patients were injected with the emulsion according to the Wechselmann method. In the last two the solution was injected intramuscularly, according to the method of Lesser. Still later, the instructions were to use the intravenous method. This method does not figure in this experimental report. The latter method is proving more rapidly efficient, but necessarily is attended with more danger, especially as regards general use.

The treatment in the early cases of this group was controlled in a way by other similar cases treated with injections of mercury, and the latter cases apparently made as good progress as those treated with salvarsan and finally better. This, however, does not demonstrate anything essential, except the fact that one injection by emulsion is not sufficient. Had the injections been repeated at intervals of a few days or weeks, as indications demanded, a much different result may have been obtained; and again, the manner of administration may have been less efficient than those now being employed. This group, therefore, seems to demonstrate the inability of a single injection, as here administered, to eradicate the disease.

CONCLUSIONS

This group of cases emphasizes facts demonstrated in the work of a large number of others on record which, summarized, are as follows:

1. Recurrences and recrudescences commonly happen after a single injection, which indicates repeated injections or resort to older methods to complete the eradication of the disease.
2. A marked and profound effect is immediately produced, which makes one indication clear for its use, viz., a rapidly spreading or malignant case in which ulceration threatens vital or useful structures, and an immediate result is imperative.
3. The effect in promoting increased nutrition is marked, especially in cachectic patients, thus placing the patient in a better physical condition normally to combat the invading organisms.

A study of these with other cases demonstrates the facts that salvarsan is a therapeutic agent of great potency; and that it is a valuable addition to our weapons of defense against certain forms of syphilis. The range of these is as yet undetermined. No one can admit that it can, in the present state of our knowledge, replace to any large degree our other well-known and very efficient agents in the treatment of syphilis.

The consensus of opinion now seems to be that it has its greatest usefulness in malignant cases, viz., those in which rapid destruction of tissue is in progress; in mucous membrane lesions about the mouth, tongue, throat, etc.; in the deeper lesions affecting subcutaneous and bony structures, in these the healing of the lesions, the relief of pain, and the promotion of nutrition being remarkable; and finally, in cases (which are fortunately few) which have resisted other well-known measures. Cases in which opinions differ and in which only time will demonstrate the value of salvarsan are the very early cases in which a profound effect on the spirochetes may entirely destroy them before the human organism has become thoroughly saturated, and also the ordinary cases which have in the past been well managed to a successful termination by the usual treatment.

Finally, the greatest credit is due Professor Ehrlich for the production of a chemical remedial agent worked out on scientific principles, and even though it may not ultimately fulfil the unparalleled expectations, it opens a field for research in treatment of parasitic affections that should be of great importance to humanity.

100 State Street.

A SIMPLE SUPPORT FOR THIGH ELASTIC STOCKINGS

C. C. JOHNSON, M.D.
CREIGHTON, NEB.

We are sometimes compelled to fit patients with thigh elastic stockings. Several of my patients have complained that they rolled down at the top and became unbearable. The tension produced by fastening the garters to the stockings is so great as to preclude that method of support. I devised this simple method of obviating their trouble. Four or five ordinary dress stays are sewed at varying intervals around the top of the stocking in the longitudinal diameter. It will be found that this ends the trouble. I would, however, suggest that the manufacturers weave small whalebone stays in the stocking in the same manner; this would make a more durable and attractive article.

A CASE OF NEPHROLITHIASIS

WITH REPEATED TEMPORARY RELIEF BY URETERAL CATHETERIZATION

W. P. WILLARD, M.D.
SAN FRANCISCO

The history of this case of nephrolithiasis is, I think, of sufficient interest to be reported.

History.—Mrs. R., aged 41, had been in good health until the birth of her child eighteen years before she came under my observation. At that time she had pneumonia from which she recovered after an illness of two months. Six years later she had ovarian and tubal trouble that necessitated the removal of both tubes and ovaries. Since this operation the patient had never been in very good health. Five years prior to being seen by me the first urinary symptoms appeared, which consisted of painful and frequent urination, and the passage at times of gravel. These symptoms persisted for several weeks and then abated, although the urine continued to be cloudy. Three years later the patient noticed a large, painful swelling in the left side of the abdomen which suddenly disappeared after being present two weeks. At this time a dull pain in the back appeared, and has continued. In January, 1909, she had a severe pain in the right side of the abdomen and back accompanied by a large swelling which disappeared in about ten days.

Examination.—I saw the patient for the first time seven months later and found her suffering greatly with a large, boggy mass extending from the costal border to the brim of the pelvis on the left side. She had a rapid pulse, of high tension, was vomiting and very much prostrated. She had passed no urine for two days and a half, and on introducing a catheter I found the bladder empty. As she was in a very bad condition I advised trying to relieve the condition temporarily by introducing a ureteral catheter.

Treatment.—Some difficulty was experienced in finding the ureteral orifices on account of a chronic cystitis and lack of motion of the openings. On passing a catheter 8 inches into the left ureter an obstruction was encountered. After injecting oil and glycerin with no result, I injected boracic acid solution through a large ureteral catheter, under considerable pressure, and was able to push the catheter to the renal pelvis. The urine spurted from the catheter and within a minute urine could be seen coming from the right ureter. In the first ten hours 1,200 c.c. of urine were passed. The catheter was allowed to remain in the ureter forty-eight hours, and on its removal a mass of mucus and phosphatic sand was passed. After this the patient felt well for six months; then she had a similar attack, which I relieved in the same way. On withdrawing the catheter a calculus 0.5 cm. in diameter was passed. The *x*-ray plates which were made at this time show several calculi in both renal pelves. Operation was positively refused.

Subsequent History.—In March, 1910, the patient again had anuria for thirty-six hours, severe pain on the left side, nausea and vomiting. The obstruction at this time seemed to be at the pelvis; probably one of the stones had engaged in the ureter, blocking the opening. The passage of the catheter had pushed it out of the way and allowed the pelvis to empty. Nothing passed after the removal of the catheter. June 1 the patient again had the same symptoms but was relieved by hot baths and applications. June 29 I was called, after she had tried for twenty-four hours to get relief. Her condition was about the same as described in the first attack, and was relieved in the same way. The obstruction was 10 inches from the bladder. After the catheter had been removed, at the end of twenty-four hours, a calculus 8 by 5 mm. was passed. Between the attacks the urine was full of pus, but the patient was not troubled in any way, except for a dull backache and at times a light night-sweat.

Although this procedure can hardly be recommended for the treatment of nephrolithiasis, still, as a palliative measure in cases in which the condition of the patient makes immediate operation hazardous, and also when small calculi are lodged in the ureter, it is worth trying.

177 Post Street.

Fatigue as a Symptom.—Chronic fatigue is the most obvious symptom in neurasthenia minor. It is true fatigue rather than simple weakness, as is shown by the facts that action is readily excited, but takes an abnormally long time to reach its maximum; that effort cannot be sustained evenly, but shows marked oscillations, and that there is slight incoordination. It is presumably due to the continual production of fatigue toxins. It affects both the mental powers and the physical, probably including the functioning of the viscera.—P. C. C. Smith in the *Practitioner.*

Therapeutics

DRUGS ACTING ON THE CIRCULATION

DIGITALIS

(Continued from page 423)

Therapy.—The conditions improved by this drug are:

1. Poor heart action from any cause except when there is advanced myocarditis, or fatty degeneration.
2. Lack of compensation in valvular disease.
3. Simple dilatation.
4. The irritable or weak heart of nicotin poisoning.
5. The strained heart from over-work or over-athletic exercise, severe marching, mountain climbing, etc.
6. Poor vasomotor tone.
7. Edema or exudations with no serious kidney lesions.

Before discussing the use of digitalis in lack of compensation in valvular disease, it will be well to consider just what is meant by lack of compensation, as this drug should not be used in valvular disease when there is full and complete compensation. Broken or failing compensation means a rapid heart, dyspnea, edema, and passive congestions of the various organs and glands of the body causing disturbed digestion, diminished nutrition, and the retention in the blood of various toxins, the results of mal-metabolism.

This drug does good in *mitral regurgitation* with broken compensation by making the ventricular contraction more complete by directly stimulating the cardiac muscle and increasing its thickness and tone as would result from systematic exercise of any voluntary muscle.

The blood-pressure in the aorta will be increased by the better action of the left ventricle and more blood is thus forced through the coronary arteries, and the nutrition of the heart is improved. Also, the greater contraction of the papillary muscles and the muscle-tissue around the mitral valve makes the opening, due to its incomplete closure, smaller, and less regurgitation takes place.

In *mitral stenosis* with failing compensation digitalis does good not only by strengthening the auricles and the right ventricle which is weakened, but by slowing the heart allows the left auricle to empty itself more completely through the narrowed mitral opening into the left ventricle. In this lesion, with the patient in bed, the heart can be slowed down to about sixty beats a minute with marked advantage. We would here caution that with profound action of digitalis the patient should never rise suddenly from the bed or from a chair, or suddenly rise from bed and evacuate the bladder, as during profound action of digitalis with the heart very slow, such sudden rising and diminution of the abdominal pressure has produced such anemia of the base of the brain as to cause sudden death.

In aortic insufficiency with broken compensation digitalis relieves the symptoms by strengthening the left ventricle, narrowing the aortic orifice, and increasing the lost tone in the aorta and peripheral vessels. Digitalis should not be pushed in this lesion as a prolonged diastole from much slowing of the heart would be of great disadvantage, and a pulse above eighty in this lesion is better than a slower pulse.

Some clinicians believe that digitalis should never be used in aortic insufficiency. However, if not used to profound effect it will often do a great deal of good when compensation has been broken in this condition. The main strain on the heart in this lesion is in the left ventricle, and the left ventricle is the part of the heart most helped by digitalis. Increased blood-pressure is not desirable in aortic insufficiency, and but slight increase in blood-pressure will occur if the digitalis is administered in small doses, though the heart muscle will be stimulated to better contraction. It is dangerous to slow a heart with aortic insufficiency below seventy, and it certainly is dangerous to slow it to sixty, as the prolonged diastole not only prevents more blood being sent upward through the carotids and cerebral arteries, but also, during diastole blood is flowing backward from the aorta into the left ventricle. At the same time, the blood is flowing toward the right auricle through the superior vena cava and therefore also from the jugular veins. The result of a prolonged diastole is anemia of the base of the brain, and this is one of the causes of sudden death in aortic regurgitation. Another danger of prolonged diastole in this lesion is of an over-filling of the left ventricle with regurgitated blood and a consequent paralysis. If serious dropsy occurs from aortic insufficiency the condition is much more serious than in mitral disease, and the prognosis is bad.

When there is lack of compensation in *aortic stenosis* digitalis will improve the condition by strengthening the left ventricle, thus overcoming the resistance at the aortic orifice. However, this drug should not be pushed in this condition, as a too sturdy action of the left ventricle against the resistance will weaken the muscle wall. In this lesion this drug often acts best when administered conjointly with nitroglycerin to keep down the peripheral resistance.

It is understood, of course, that nitroglycerin administered at the time the digitalis is administered is of no avail in counteracting any action on the blood-vessels of that particular dose of digitalis, but if digitalis is administered twice in twenty-four hours and nitroglycerin four times or more in twenty-four hours, more or less continuance of lowered blood-pressure will occur. It may be stated here that although in the laboratory the effect of lowering of the blood-pressure of a single dose of nitroglycerin lasts but a short time, clinically it is a positive fact repeatedly noted that in conditions of high blood-pressure when nitroglycerin in proper dose is administered, even not more than four times in twenty-four hours, the average blood-pressure is continually lower than without this drug.

The satisfactory action of digitalis when compensation is weakened in valvular disease may be many times repeated, but sooner or later in valvular lesions with recurring incompetency the cardiac muscle becomes so deteriorated that digitalis no longer is able to restore the hypertrophy. Some patients do well with small doses of digitalis long continued, for months and even years. Other patients with valvular disease and incompetency, after the hypertrophy has been restored by digitalis, may not again need a cardiac drug for months until some unusual exercise, or mental anxiety, or severe sickness has again broken the compensation, and again digitalis will improve the condition. Rarely, however, in patients who have repeatedly taken digitalis, or in some few patients always, some other cardiac medication will act better than does digitalis.

In any condition in which the *right side of the heart* alone is dilated and incompetent without valvular lesions, as occurs in pulmonary disturbances such as pleurisy, empyema, advanced tuberculosis, and especially emphysema, digitalis is of benefit. This is true in spite of the denial by some experimenters that digitalis acts at all on the right ventricle.

In conditions of sudden *cardiac failure or shock* from any cause the action of digitalis is so slow, even if given hypodermatically, that it should not be relied on to meet the emergency. If the shock or cardiac distress can be overcome for the time being by other drugs, digitalis given at the time will in some hours begin to add its powerful stimulation to the heart and blood-vessels.

In *simple hypertrophy* of the heart, or when the compensation is complete in valvular lesion, digitalis should *not* be used.

In the various stages of *acute endocarditis* occurring as a complication in acute rheumatism it is hard to decide whether digitalis should, or should not, be used. On the one hand the heart at this time should not be stimulated to more sturdy contraction. On the other hand, the slowing of the heart can but do good by modifying the movements of an inflamed organ. If the heart with endocarditis is beating at the rate of 110 beats a minute, it would seem good treatment to cause such physiologic rest as would be produced by reducing the pulse-rate to eighty or ninety beats a minute.

Probably early in endocardial inflammation local application of ice is the best method of slowing the heart. Next, if the conditions allow it, perhaps small doses of aconite may be administered for a day or two; later, nitroglycerin may act well to slow and quiet the heart. After the acute symptoms are over it cannot be decided offhand that small doses of digitalis will not aid a heart in its repair. Most clinicians believe digitalis should never be used in this condition. Some experimental proof has seemed to show that small doses may tend to produce a more complete recovery of the heart. If a second attack of endocarditis is superimposed on a previously damaged heart and both together cause broken compensation sufficient to produce edemas, the problem whether or not digitalis should be given is still more difficult to solve.

In *pericarditis* this drug will help the laboring heart.

In the feeble heart of chronic *myocarditis* and of *fatty degeneration* the utility of digitalis is much less pronounced, and the advisability of using the drug at all has been much questioned. However, in many of these cases if the drug is given cautiously and in small doses it will prove of considerable benefit, as in many cases we are not certain that there is actual degeneration of the cardiac muscle; and also it is impossible to decide how extensive the degeneration is even if we assume that it actually exists. It is plain that we should not deny the patient the possible benefit from digitalis though at the same time the action of the drug should be carefully watched. Degeneration of the cardiac muscle is frequently due to inadequate nutrition caused by impaired circulation through the coronary arteries. The orifices of these arteries are covered by the semilunar valves during the systole of the heart; consequently, these arteries are not supplied with blood during its active propulsion through the aorta. But during the diastole when the aortic valve is closed the elastic rebound of the blood in the aorta fills these arteries and gives to the heart its nutrition. If the aorta is imperfectly filled, or if the blood is allowed to flow back into the left ventricle on account of the imperfect closure of the semilunar valves, or if the blood-pressure is abnormally low, the coronary arteries will not receive an adequate amount of blood and the nutrition of the heart will be impaired, and degeneration of the cardiac muscle will take place. When any of these conditions exist, digitalis, by throwing a large amount of blood into the aorta, by causing more complete closure of the semilunar valves, and by increasing the blood-tension in the arteries, will cause an increased amount of blood to enter the coronary circulation, and the nutrition of the heart improves. Hence, digitalis will delay the progress of the degenerative process unless there is serious atheroma of the coronary arteries, but it cannot, of course, restore structures already degenerated. This latter fact makes the use of digitalis so often disappointing in the condition of chronic myocarditis. If acute myocarditis is diagnosed or surmised, digitalis should not be used.

When there is *irregularity* of the heart without any valvular lesions or signs of cardiac insufficiency, occasionally digitalis will improve the rhythm. This is especially true when the heart misses an occasional beat from previous over-exertion or cardiac strain. Under these conditions digitalis often relieves the cardiac discomfort and renders the pulse regular. If there is cardiac pain at the same time there is irregularity, digitalis will often increase that pain and do harm. In most instances of this malfunction strophanthus acts better than digitalis. If there is arteriosclerosis, nitroglycerin will improve the condition.

Not infrequently when there is complete *heart block*, digitalis should be used with caution, although of course it is possible that a better ventricular contraction and an improved aortic blood-pressure may cause more perfect circulation and therefore better nutrition to the part of the heart that is in trouble in this condition.

Digitalis should not be used in *endarteritis* or in atheroma, and hence, ordinarily, not in *aneurysm*. If aneurysm occurs early in life when the arteries are not diseased, in certain selected cases it might be used with care if it were otherwise indicated.

In *cerebral inflammations*, or in any acute cerebral condition, digitalis is contra-indicated, but in the insomnia of *neurasthenics* or when there is general *vasomotor debility*, when the patient is drowsy when up and awake, and wakeful when he lies down, the tone of the blood-vessels being so poor that they dilate in the lower part of the body when the patient is up and in the head when he lies down, digitalis oftentimes acts as a good soporific. Digitalis may be used for this purpose alone, or if given conjointly with more active hypnotics will make a much smaller dose of the hypnotic successful than when it is used without the digitalis. In fact, in neurasthenic conditions or in conditions of vasomotor debility digitalis is a general tonic for the whole system, improving the general circulation and increasing the general nutrition. Profuse sweating, especially in the axillæ, in neurasthenic patients is improved by digitalis.

In *delirium tremens*, whatever cardiac treatment is given should be given hypodermatically, as drugs given by the stomach are either not absorbed at all, or are absorbed very slowly, which accounts for the harmlessness of the enormous doses of digitalis given by the mouth in this condition.

In *chronic alcoholism* before hardening of the arteries has occurred this drug is undoubtedly of advantage.

Digitalis has been recommended and used for various *internal hemorrhages*, especially for hemoptysis, but it is a question of doubt whether a drug which raises the blood-pressure as does digitalis is rational treatment. The success which has attended its use in this condition is probably really the coincidence of the natural cessation of the hemorrhage. Venous hemorrhages, either from the nostrils or from the lungs, are often stopped by the administration of digitalis. This is especially true if there are valvular lesions. Ordinarily, however, it must be remembered that drugs that raise the blood-pressure are not indicated in internal hemorrhage. In other words, such drugs as digitalis, ergot, strychnin, and atropin are generally contra-indicated. Those that lower the blood-pressure, as the nitrites, are the drugs that should be used.

On account of the slowness of its action, digitalis is not indicated in *shock* and *collapse*. Also, it has been shown by experimental evidence that animals in condition of shock do not live as long when treated with digitalis as those who are not so treated. Therefore, it is inadvisable to use digitalis in this condition.

In *purpura* and in hemorrhagic diathesis, digitalis, by contracting the blood-vessels, may tend to diminish the frequency of the hemorrhages. There are other treatments, however, more useful.

This drug by contracting the blood-vessels of the genital organs has been thought to act as an *anaphrodisiac*, and it has also been used in *spermatorrhea*. In these conditions, when there are local causative irritations and inflammations, digitalis would be of no benefit. If there were a general vasomotor debility digitalis could be good treatment.

Though not a very well-established fact, it is considered by some writers that digitalis will stimulate the uterus to contract, and hence this drug has been used in menorrhagia. It could do good only as a general circulatory tonic. It has also been recommended in *post-partum hemorrhage*, but any action in this condition would come too late to be of value, and as the bleeding is from the open veins, it is difficult to understand how it could do any good except by later improving the lost tone of the systemic vessels.

In *edema* from other causes than valvular disease, as occurs in anemia, especially of the lower extremities, when combined with other proper treatment digitalis is of marked benefit. *Chronic eczema* and ulcers of the leg, with or without varicose veins, are often benefited by digitalis.

When there are *effusions* without kidney lesions, or when there is chronic liver disease digitalis is often of benefit.

In *Graves' thyroid disease* this drug given for a long time may do considerable good by overcoming the dilated condition of the blood-vessels caused by the hypersecretion of the thyroid. Its power of slowing the heart, however, in this condition is very limited, and large doses to produce that result would probably not be justified though its prolonged use might gradually aid in establishing a cure.

The use of digitalis in *renal disease* is much discussed, some clinicians advising it and others denouncing it. No fixed rule can be given. In acute congestion of the kidney, digitalis should not be used. The same is theoretically true in uremic poisoning. However, with low vasomotor tension and a weak heart digitalis should be tried in not too large doses. If it does not give good results in thirty-six or at most forty-eight hours it should be stopped. If the results are good, the size of the dose should be diminished as over-action from digitalis can certainly readily take place in kidney lesions.

In the diseases of the lungs above cited with a strained right side of the heart, this drug is of advantage. It is also useful in many cases of *chronic bronchitis*, aiding the recovery by improving the pulmonary circulation. Small doses are also often of benefit in severe *whooping-cough* in which the right side of the heart is subjected to such serious strain.

Digitalis has been used in *pneumonia*. Whether it is of advantage in this disease can be decided only by the individual case. Not every pneumonia patient should receive digitalis, but the condition of the heart may call for it. In the first stage it should not be used; in the second stage it may be used; in the third stage, especially where there is slow resolution, in combination with other appropriate treatment it may often be of marked advantage. If there is "prune juice" expectoration, showing a venous stasis, or insufficiency of the right ventricle, digitalis may be advisable at any stage of pneumonia. A few clinicians use digitalis throughout the pneumonic process, but they have not satisfactorily proved their case, and digitalis has seemed at times to increase the pulmonary congestion, increase the dyspnea, and cause dangerous symptoms.

Often during pneumonia the urine shows albumin and the kidneys secrete an insufficient amount of urine, even without any apparent cardiac failure. During pneumonia, digitalis, instead of increasing the urine output, frequently seems to decrease it, and the cumulative effect of the drug during this disease is readily caused.

Some clinicians advise the use of digitalis *as an antipyretic*. Before we can accept an antipyretic action of this drug in non-poisonous doses, we must know what other treatment was given in the cases in which the antipyretic action took place. The action of high internal temperature on the pneumogastric nerve or its center in the medulla is such that many times digitalis will not slow the heart, hence it should not be pushed in fevers, if it is given at all. Also, when there has been prolonged fever the cardiac muscle becomes weakened and perhaps slightly degenerated, and we here have another reason for giving digitalis in very small doses, as it is not justifiable to add much irritation to an injured organ.

Contra-Indications.—High tension of the arteries, atheromatous conditions, weak cardiac muscle from prolonged fevers, from fatty degeneration, or from myocarditis, and ordinarily serious kidney lesions should contra-indicate the use of digitalis. Inflammation of the stomach should cause some other cardiac drug to be substituted.

Digitalis is useless, if not harmful, in an attack of tachycardia and in a failing heart after a severe fever, and should not be used in these conditions. It cannot be relied on to do any more than aid the circulation when there are large effusions.

Official Preparations.—The following are the official preparations:

Digitalis: The dried leaves, dose 0.05 gram (about 1 grain).

Extractum Digitalis: Average dose 0.03 gram (½ grain).

Fluidextractum Digitalis: Average dose 2 drops.

Infusum Digitalis: Average dose 10 c.c. (about 2 fluidrams) or 2 teaspoonfuls.

Tinctura Digitalis: Average dose 10 drops.

Non-Official Preparations. — Various supposedly assayed watery and alcoholic extracts of digitalis are on the market, and some tinctures are prepared in such a manner as to have the fatty part of the digitalis removed. Such tinctures seem to be less likely to cause irritation of the stomach, and are therefore better tolerated. Even in these supposedly assayed preparations the strength at times varies, and the dose of any one single preparation of digitalis is *enough* to accomplish the object desired, unless undesirable symptoms occur which prohibit further use of the drug.

Digitalinum: Digitalin is a varying product as it occurs in the shops and may or may not represent a desired activity. It is a white or yellowish white powder, odorless and bitter. Until this product is absolutely pure and always the same the beginning dose should not be more than 1/25 of a grain. However, a dose as high as ¼ of a grain may be given before the physiologic effect of the drug desired is obtained. It must be remembered, however, that even this glucosid administered hypodermatically acts very slowly.

Digitoxin: A good preparation of *digitoxin* on the market is under the name of "digalen." Investigation of this product has seemed to show that it is a digitoxin perhaps not so strong as the pure crystallin digitoxin. Digitoxin represents an active principle of digitalis, and acts a little more quickly than other principles, and is eliminated a little more quickly, but does not represent the whole value of digitalis as represented by a fresh infusion of good leaves or a properly made fluidextract or tincture. Some experimentation has seemed to show that digitoxin is more likely to raise the blood-pressure undesirably and therefore precipitate a cumulative effect by its action on the kidney vessels, while, if its action is satisfactory, it will be more rapidly eliminated than some other of the digitalis glucosids. This means that a digitoxin preparation, with the kidneys healthy, is less likely to cause a cumulative action when the drug is long continued than is the whole drug. On the other hand, with the kidneys deficient, it is perhaps more liable to cause cumulative action than is the whole drug.

Digitoxin is now used with considerable frequency in therapeutics. It is insoluble in water and is irritant, and therefore should not be used hypodermatically. It seems to decompose rather rapidly, and probably therefore loses its efficiency. While it frequently steadies an irregular heart better than the whole drug, its tendency to contract the blood-vessels more than the whole drug should preclude its use when high blood-pressure or arteriosclerosis are present.

Administration.—The best preparations for internal administration are the infusion, freshly prepared, and the tincture. These preparations would be incompatible only with such drugs as are incompatible with all infusions and tinctures of vegetable drugs. If the other official preparations are used, the digitalis leaves should be given in powder or capsule, the extract in pill or capsule, and the fluidextract alone. The drug is not expensive and perhaps not often adulterated, but if the infusion is ordered one should be sure that it is made from the fresh leaves and not from the fluidextract. The infusion is no better preparation (except possibly as representing an extract of good leaves) than is the tincture, if the tincture is a good one. The dose of the infusion is always given so much larger relatively than the dose of the tincture, that the infusion gets the credit for more efficient work. The tincture is only about six times stronger than the infusion; therefore, the equivalent dose of the infusion to 1 c.c. (15 minims) of the tincture is 6 c.c. (1½ fluidrams).

"Digipuratum" is an extract of digitalis leaves representing the active principle. It is offered in powder and in tablet form. It is insoluble in cold water and acids; but easily soluble in dilute alkaline solutions. Each tablet contains 0.1 gm., and one a day, or less, is supposed to be sufficient, if to be given for any length of time.

Digitalin is probably the preparation of digitalis most used hypodermatically, and as previously stated, it has been urged that it is used in too small doses, which is the reason so little effect has been produced. However, the French expect to get results from 0.001 gram (1/60 of a grain) of digitalin, and some French clinicians advise this dose given once, and then no more for three weeks, combined with rest in bed, purgation, and a milk diet; this for cardiac dropsy.

It is certain that the satisfactory action of digitalis is evidenced by diuresis which, however, is not in positive evidence until from thirty-six to forty-eight hours after the first dose. Some clinicians, notably the French, as just stated, seem to think that one large dose of digitalis, whatever the preparation be, is more efficient in its results, when there is cardiac insufficiency with edema, than smaller doses. Smaller doses are used when there is simple palpitation and dyspnea without edemas. Very small doses are given when it seems advisable to give the drug for a long period. In fact, the more one reads of the recommendations of various writers as to the use of digitalis, the more confused one becomes. The following seem to be valuable suggestions as to the dosage of digitalis:

1. It must be known that the preparation used is a good one.
2. No immediate symptoms of the action of digitalis must be expected. It cannot exert its physiolgic action until at least twelve hours, and not its full activity for at least from twenty-four to thirty-six hours.
3. If there are conditions present that present a doubt as to whether digitalis will do good or harm, the dose should be medium or even small and given three or four times in twenty-four hours, and if ascertained that the action is for good, the frequency of the dose may then be diminished.
4. If positive indications for the need of digitalis action are present without conditions of doubt being present, as arteriosclerosis or myocarditis or fatty heart, a large efficient dose should be given at once and then no more for from thirty-six to forty-eight hours.
5. Digitalis should not be used in shock or in cardiac failure in acute disease.

Mine Rescue Cars.—Why the deaths in American mines during the year 1909 should be about 5 out of every 1,000 employed, and in European countries only about 2 out of every 1,000, has caused inquiry. It has been found that this great difference is due largely to the fact that for some years past certain European countries have maintained efficient rescue stations. M. M. Hunting (*Scientific American*, Jan. 7, 1911) describes the six mine rescue cars equipped by the Bureau of Mines for rescue work. These cars are equipped with the latest apparatus including first-aid materials and are manned with experienced miners drawn for this work. They are stationed at the great coal mining centers, one in Wyoming, one in Montana, one at Salt Lake City, one in Illinois, one in Tennessee and one in Pittsburg, Pa. A surgeon from the American Red Cross Society and a mining engineer are members of the crew of each car. They will visit all mining towns of importance in their allotted territory and deliver lectures and give demonstrations on the use of explosives, electric apparatus, fire prevention, sanitation, etc. Rescue brigades will be formed at each place and each car will contain eight oxygen helmets and a supply of oxygen in tanks, twelve safety lamps, a field telephone and wire, outfits for resuscitating asphyxiated miners, etc. Men at each place will be trained in the use of the oxygen helmets, which permit the miner to enter the mine immediately after an explosion while it is full of poisonous gases. Such an equipment would no doubt have saved many lives in recent mine disasters.

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POSTANESTHETIC INFECTIONS

Modern surgery has rendered the occurrence of serious infections of operation wounds a rarity, but it has not succeeded so well in abolishing postoperative infection of the lungs. The development of pneumonia after an operation, even though the greatest care be taken in both anesthesia and operation, is always a dreaded possibility, and one which no amount of precaution can positively eliminate. In well-conducted surgical clinics the mortality from postoperative lung infections undoubtedly exceeds the mortality from infections arising in the operation wounds; the latter are reduced by careful technic to practically zero, while the lung complications, although much reduced by improved methods of anesthesia and better care of the patient during and after the operation, still remain a serious menace.

The reasons for these lung infections are obvious enough. Direct irritation of the respiratory passages by the anesthetic vapors, chilling of the tissues by the ether-cooled air, to say nothing of aspiration of saliva and food materials through the ineffective larynx during deep unconsciousness, are adequate to account for pneumonia. Our newly acquired knowledge of the part played by the blood in preventing and controlling infection also shows us that there is more than a local pre- osition to infection, for after anesthesia the power e blood to destroy pathogenic bacteria is markedly ced. In fact, the members of the entire group of ol, ether and chloroform reduce the power of the d to combat bacteria; the state of a man after a long thesia is comparable to that of an alcoholic with bronchitis who has been sleeping off an overdose of alcohol in a doorway or a freight-car.

So important a subject is this postoperative pneumonia that much interest attaches to the recent studies of Graham[1] on anesthesia and the bactericidal powers of the blood. According to these experiments, it is not the power which serum itself has of destroying bacteria through bacteriolysis which is reduced by anesthetics, but the destruction of bacteria by phagocytosis is greatly reduced. Now it so happens that the organisms which we have to fear in surgery, the pneumococcus and the pus cocci, are destroyed chiefly through phagocytosis and not by bacteriolysis, which gives added importance to this depressing effect on the bactericidal powers of the blood. Apparently ether, the anesthetic which Graham has studied, reduces both the efficiency of the opsonins and the power of the leukocytes to take up the sensitized bacteria; these effects can be seen both in the blood of patients or animals after anesthesia, and in drawn normal blood treated with ether in the test-tube. The action of the ether is not permanent, the opsonic power being restored promptly on removal of the ether.

As the distribution and action of ether in the living body is closely dependent on its great solubility in fats and lipoids, Graham sought to learn if these substances might not influence this undesirable inhibitory action of ether on the bactericidal properties of the blood, with suggestive results. Lecithin, when added to etherized serum, was found to restore the opsonic power to normal, and—what is of especial practical importance—the subcutaneous injection of lecithin into animals, immediately after anesthetizing them, was found to cause the opsonic index to rise much more rapidly than it did in control animals. This effect of lecithin apparently depending chiefly if not entirely on its ability to take up ether from aqueous solution, the action of olive oil was then tried and found to be similar. The application of this principle to clinical uses was then made by giving rectal injections of olive oil to patients immediately after anesthesia, with a strikingly rapid return to normal of the opsonic power of the patient's blood as the result. So simple and logical a procedure as this is entitled to a general and thorough trial, which it will undoubtedly receive, especially in view of its assured harmlessness. In estimating its results, however, it must be borne in mind that the lowered bactericidal power of the blood is only one of the conditions which favor the development of postoperative pneumonia; the local injury to the lungs will still exist as a source of danger, and we can scarcely expect to eliminate entirely all possibility of pneumonia, no matter how promptly we may be able to restore the phagocytic activity of the blood.

THE DIMINISHING BIRTH-RATE

Everywhere a cry of alarm goes up at the diminishing birth-rate. The biologist deplores the apparent decrease in the virility and fecundity of the species; the publicist shudders at the possibility of the extinction or decreased importance of the nation.

The subject of the birth-rate, increasing or diminishing, is one which always seems to arouse agitation; it is one, moreover, about which opinion has oscillated for more than a hundred years. About half a century ago, John Stuart Mill, coolest and least emotional of thinkers, wrote apprehensively of Great Britain as "a country overpeopled or threatened with being so." In the eighteenth century, on the other hand, learned writers, with equal pessimism, maintained that the population of the known world had declined since the palmy days of the great nations of antiquity; and grave fears were entertained, even as they are to-day, lest the tendency might continue indefinitely.

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[1] Graham, Evarts A.: The Influence of Ether and Ether Anesthesia on Bacteriolysis, Agglutination and Phagocytosis, Jour. Infect. Dis., 1910, viii, 147; The Effect of Ether on Certain Processes of Immunity, The Journal A. M. A., March 26, 1910, p. 1043.

It was at this juncture that Malthus came forward with his theory of the necessary limitation placed on the numbers of population by the means of subsistence. The best population, he taught, was not necessarily the largest, any more than it was the smallest; it was the population which was best nourished, most industrious and most moral. Increase in numbers was good so far, and only so far, as was consistent with maintenance of the quality of population.

It is interesting to note the swing of the pendulum once more toward the position of Malthus. For instance, two recent writers attempt to show, the one, that the cause of the diminishing birth-rate is, in the main, the prudence and not the degenerated physique of individuals; the other, that it is a necessary factor in the advance of civilization among nations.

Professor Emerick[1] concedes that the stress of modern life and the involuntary sterility induced by venereal diseases may be contributing factors in the declining birth-rate, but he insists that this does not offer a satisfactory explanation of the phenomenon. Though it may be admitted, as some authorities hold, that venereal diseases are responsible for fully 25 per cent. of inability to procreate in men and for more than 50 per cent. of enforced sterility in women, to say nothing of one-child sterility, this, Emerick thinks, leaves us quite in the dark as to the real proportion of involuntary sterility. He believes that there is little evidence that incapacity due to sexual diseases has become more common, and that it is not clear that venereal diseases are most common in that portion of the population in which the birth-rate is lowest. He also believes that the fall in the birth-rate has been too sudden and marked to be accounted for by the energy expenditure demanded by modern life. Nor do the modern sedentary occupations, the higher education of women, and the other more or less artificial conditions of life operate to reduce the birth-rate without the volition of the individual. According to Malthus, the birth-rate is less among barbarous than among civilized races, and in civilization the birth-rate has fallen among laborers and mechanics as well as among brain-workers; among the inhabitants of rural communities, as well as among those of the cities. In the evolution of the race nothing has become more firmly fixed than the power of reproduction. The persistence of the procreative power is one of its most marked characteristics. This is notorious among many kinds of degenerates.

The most potent reasons, then, in Emerick's view, for the limitation of the birth-rate are found in the personal preference of the individual, and in economic compulsion. He says that the increased expense of producing self-supporting men in this day limits their supply as truly as expense limits the production of commodities. Moreover, the economic reason that once rendered marriage compulsory for women has now lost much of its force, or even acts in the opposite way. The will of the woman has consequently become more influential, not only in determining the formation of the family, but in the admission of new members to it. Of course these reasons involve many others, such as postponement of marriage, desire for ease, aims and ambitions inconsistent with marriage and offspring, etc. Emerick's conclusion is that the diminishing birth-rate is primarily volitional, and that the various factors which make for involuntary sterility are of minor importance.

Taking the larger view of the question, as applied to nations rather than to individuals, Dr. Nearing[2] undertakes to prove the converse of Emerick's proposition, namely, that the restriction of population is economically a problem of survival. In 1800 the population of the United States, for instance, was doubling itself, by natural increase, to say nothing of immigration, every twenty-five years. Had that rate of increase continued, in 1900 the native-born population would have numbered about one hundred million, and in 2,000 A. D., it would have increased to eight hundred million. In the United States in 1910, with considerably less than one hundred millions of people, already the alarm has been raised that our land has all been taken up and much of its fertility has been exhausted, so that we are being warned against the danger of insufficient food to supply our rapidly increasing population, while the increased cost of that which is available has become a serious public problem.

Formerly wars, pestilence and famine served to keep down the population; but modern science and the spread of intelligence have increased the average length of life and reduced the death-rate so radically—say to sixteen per thousand—that the figures of the calculation quoted do not correspond to the population of 1900, disregarding the elements we are discussing which have intervened to keep the population down to a possible subsistence basis.

In other words, we come back to the position of Malthus: Population is inevitably limited by the means of subsistence. Given a certain subsistence available at a given place and a given period, capable of supporting a certain number of well-rounded lives, if the total number of lives exceeds the given optimum, the lives of some or all must be curtailed in length or breadth or in both. Beyond a certain point, a rise in the birth-rate entails a rise in the death-rate and a fall in the average standard of living.

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[1] Emerick, C. F.: Is the Diminishing Birth-Rate Volitional? Pop. Sc. Monthly, January, 1911, p. 71.

[2] Nearing, S.: "Race Suicide" vs. Overpopulation, Pop. Sc. Monthly, January, 1911, p. 81.

It would be rash to attempt to find in these essays any basis for finality on the subject. A survey of the fluctuations of opinion, however, offers the comforting suggestion that we may well postpone our panic fears of depopulation and overpopulation until statistical science and the collection of statistics have made a little more progress and are able to inform us with certainty which we really need to fear.

BLACKWATER FEVER AND MALARIA

Although it is generally accepted that blackwater fever—the acute febrile hemoglobinuria of tropical and subtropical regions—is malarial in origin, no means has as yet been found to demonstrate this with certainty; and not infrequently there appear enthusiastic advocates for its specific character. Such a one is Craig,[1] who, in an able review, presents a strong case against the malarial hypothesis. This hypothesis is founded on the following evidence: first, the occurrence of the disease only in malarial districts, and its greatest frequency in localities infested with pernicious malaria; second, the presence of plasmodia in the blood either just before or during the attack; third, the fact that most, if not all, sufferers give a history of previous malarial attacks, and ordinarily have spent a long period in a malaria-infested region; and last, the fact that the blood-picture, a relative increase in large mononuclear cells, is that of malaria. But Craig points out that, although blackwater fever occurs only in malarial districts, many such regions, and even such as are infested with the severe type of the disease, are quite free from cases of the hemoglobinuric affection. As instances of this he cites Italy, where blackwater fever is rare, while the neighboring islands of Sicily and Sardinia suffer severely from it. In India it is restricted to certain limited areas of the malarial regions; in the Philippines, where pernicious malaria is of great prevalence, blackwater fever is almost unknown. Further, instances of house infection are recorded, in which all the cases occurring in a certain neighborhood came from one or two dwellings only. Another significant fact is that the disease appears to be spreading. Thus it is only in late years that the west coast of Africa has suffered from it and in India, too, it has been reported only comparatively recently. Yet both of these regions have been sites of pernicious malaria from time immemorial. That neither previous malarial infection nor long residence in malarial localities is required to produce the disease, is shown fairly conclusively by the citation of numerous cases in which one or the other factor was absent, or both. And the same applies to the occurrence of plasmodia, since instances are recorded in which careful blood-examinations before and during the attack, and even splenic puncture, have failed to reveal them. In regard to the significance of the blood-picture, the same findings occur in other tropical protozoan infections, as sleeping-sickness and kala-azar. As to the quinin theory of the cause of blackwater fever, many cases have been reported in which quinin had not been administered to the sufferer. Craig also affirms that the giving of quinin has no effect on the course, but the general consensus of opinion and statistical evidence do not seem to support him on this point. The evidence for specificity consists in part of the facts already presented. Further, the occurrence of several well-established epidemics speaks strongly in its favor. Finally, the pathology, while not distinctive, differs enough from that of malaria to bear some weight.

Brem,[2] writing still more recently, is inclined to the view that by "blackwater fever, we in reality describe two distinct affections." The one he considers a manifestation of excessive erythrocytic destruction by malarial parasites, and therefore a type of pernicious malaria. This he designates as "pernicious malaria with hemoglobinuria." The other, with less striking evidence of plasmodial infection, he describes as "erythrolytic hemoglobinuria." As to the etiology of this second form, he offers no suggestions, beyond stating that, in some cases, at least, quinin apparently acts as a direct exciting cause. His statistics, as well as others quoted by him, appear to bear out the contention that quinin has a deleterious action in this form.

Finally, the whole subject is complicated by a recent discovery by Urriola,[3] who states that all cases of malaria, however latent, show masses of blood-pigment in the urinary sediment, similar to that announced long ago by Laveran as present in the blood-stream, but not hitherto considered of diagnostic importance. It would appear, however, that the urinary pigment, although of hemic origin, is enough modified to remove it from the scope of hemoglobinuria, since Brem failed to get hemoglobin tests in the urine of numerous mild and moderate cases of malaria.

The whole problem is one that presents unusual obstacles. The difficulty of deciding absolutely as to the occurrence of malaria in any given case is alone enough to delay its solution. And without careful animal experimentation—to the necessity for which Craig calls attention—it is improbable that any absolute decision can be attained.

ANCIENT PROBLEMS OF PHARMACY, AND THEIR WARNING

Most physicians of modern times would be quite sure, if they thought about the matter at all, that the pharmaceutic problems which prove so troublesome in our time represent abuses that have crept into medicine because of peculiar developments in the last few generations. Certainly very few would think that these problems—proprietary remedies and their abuse, substitution, counterfeiting of drugs, the use of long, imposing Greek names to make new compounds popular and impressive—were all features of a previous phase of medical history. In this matter the story of medicine at Rome during the early empire is particularly interesting. Social and economic conditions were not very different from ours; indeed, as the Italian historian Ferrero made very clear in his American lectures, they were in many ways remarkably like those of our day and country. If we bear this in mind, it is not so surprising to find that our problems in pharmacy resemble theirs so closely as to be almost a perfect replica. The value of history consists largely in the applicability of its lessons to the aftertime; unless we can see the fitness of the application, it becomes scarcely more than a tale that is told. The history of pharmacy, therefore, at Rome, has its special interest at this time.

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[1] Arch. Int. Med., 1911, vii, 56.

[2] Arch. Int. Med., 1911, vii, 153.

[3] Semaine méd., 1911, xxxi, 3.

Pliny the elder, for instance, complains that physicians of his time (the first century after Christ) often bought their remedies already prepared so as to avoid the trouble of preparation. He evidently refers to compounds of various kinds supposed to be curative for various affections; for Friedländer[1] says that "often the physicians did not know the exact ingredients of the compounds that they used and should they desire to make up written prescriptions, would be cheated by the salesmen." Both Galen and Pliny complain of the fact that physicians used "ready-made" medicines instead of original prescriptions carefully prepared by or under the supervision of the physicians themselves. It is evident that the proprietary remedy had come into existence thus early, and that various drug manufacturers had made specialties which physicians, following the line of least resistance, found it easy to prescribe, though men like Pliny and Galen realized very clearly that this was an abdication of one of the most important functions of their profession, which was bound to work harm in the end both to themselves and to their patients.

Galen has much to say with regard to the frauds practiced on physicians by the "cursed dealers," as he calls them, who substituted one drug for another whenever they found it difficult to fill a prescription as it had been ordered. He admits that not infrequently the drug-compounders were themselves the innocent victims of "collectors of herbs who brought saps and flowers and fruits and sprouts into towns" and of others who compounded remedies of various kinds for sale to the pharmacies. He confesses that the ingenious methods of counterfeiting practiced by some of these men would deceive any but the experts. Galen himself, in his younger years, had been a pupil under a man who "forged balsam, Lemnian earth, white flowers of zinc and other rare drugs to perfection and succeeded in making a great deal of money by this means.[1]" Galen even insisted rather emphatically that an imported article was not necessarily genuine or pure, quite as in our day he would probably have proclaimed that being "made in Germany" was not in itself an assurance of scientific or ethical quality. He himself preferred to obtain his drugs from the proper regions and through reliable dealers and friends on whose absolute honesty he could depend. This whole picture of the drug trade in imperial Rome, as Friedländer gives it in a page or two, would read almost like an antedated satire on certain conditions of our time; but it is sober history.

Other details seem even more strangely familiar to physicians of the present time. For instance, many remedies were known by special arbitrary names instead of descriptive names recalling the ingredients. Sometimes they were named after famous physicians who had used the remedies in question or were said to have done so; again, the preparations were named for persons of distinction who actually or supposedly were cured thereby, much as, in our own day, cigars are named for poets, statesmen and actors. The titles of some of these preparations for instance, were "Ointment for Gout, made for Patroculus, Imperial Freedman—Safe Cure"; "Ointment for Aburnius Valens" (probably the famous jurist) called the "expensive ointment"; "Eye Salve used by Florus on Antonia the wife of Drusus [the Emperor's son] after the other doctors had nearly blinded her." Many of these remedies were labeled "instantaneous," "safe," "sure cure." "harmless remedy," and the like. Frequently euphonious names, sometimes from the Greek, were chosen for these remedies—Ambrosia, Anicetum, Nectarium, and the like. The promoters evidently knew the satisfying effect on both physician and patient of a long, mystifying foreign name. George Eliot says that we map out our ignorance in long Greek names; but certainly the pharmaceutic equivalent of "that blessed word Mesopotamia" seldom fails to produce a wonderful feeling of assurance and of confidence in the therapeutic potentialities corresponding to its majestic syllables.

The source of these abuses was just the same in Rome nineteen centuries ago as it is here to-day—greed for money. To use Friedländer's words, "Wealth was the genius of the noisy, restless striving which daily filled the streets and palaces; one universal chase after money as the original good, whence were derived rank, respect and honor. The complaint was just that wealth was the sole criterion and the one aim of Rome." From this universal money-seeking came the approximate commercialization of the professions; hence the abuses that flourished in pharmacy and in medicine. The lesson is complete. The protests of Pliny and of Galen were impressive, but Rome was deteriorating; there was no professional organization to check these abuses, and they increased as Rome declined. Evidently if we are to avoid such unfortunate deterioration in our own time, we must not shrink from recognizing and resisting the evils which do so easily beset commercialized ages like those of the first and the twentieth centuries A. D.

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[1] Friedländer: Roman Life and Manners Under the Early Empire, New York, E. P. Dutton, p. 176.

Current Comment

MADAME CURIE AND THE ACADEMY OF SCIENCES

The recent candidacy of Mme. Curie for the vacant seat of M. Gernez in the Académie des sciences of France has aroused much interest outside of that country, and the news of her defeat will doubtless be a disappointment to many who seldom feel any concern about the distribution of foreign academic honors. Justly or unjustly, public opinion outside of France will incline to interpret the result of the election as a discrimination, on grounds of sex, against a scientific investigator of high standing. The academy, however, has avoided the responsibility of officially excluding women. As explained by our Paris correspondent in this issue, the agitating question of feminine candidacy was laid before the Institut de France, of which the Académie des sciences is a component part. The institute passed a resolution advising respect for "immutable tradition," but declining to interfere with the autonomy of the five affiliated academies. The Académie des sciences presented Mme. Curie as a candidate, thereby tacitly admitting the principle of the eligibility of women. On the first ballot Mme. Curie received but one vote less than her successful rival. To what degree her defeat is to be attributed to the undoubtedly strong feeling against the admission of women cannot be judged from this distance. Her successful competitor is, we are assured, a member who confers honor on the illustrious body to which he has been elected; and it would doubtless be unfair to ascribe his election chiefly to prejudice against a woman candidate. The narrowness of the margin by which Mme. Curie was defeated suggests that a similar contest might some time have a different ending. The election of so distinguished a woman as Mme. Curie to the Académie des sciences, if that should ever occur, would certainly add to rather than detract from the honor conferred on other members, since it would indicate that no personal consideration outweighed scientific attainments in the selection of members.

VINDICATING THE TUBERCULIN TEST

The report of the milk committee of the Illinois legislature, which was adverse to the tuberculin test, on the ground that a positive reaction is not a reliable indication of tuberculosis in cattle, received a severe body-blow in a test recently made in Chicago. The action of the committee was followed by the introduction into the legislature of a bill (House Bill 55), which seeks to prohibit the enforcement of the tuberculin test by municipalities. This was introduced in the interest of those milk-producers of the state who assert that the test is not conclusive. This assertion has been disputed vigorously by the Chicago health authorities, who have been enforcing this test in the dairies which supply milk to the city of Chicago. The milk-producers, confident of their ability to show the fallacy of the tuberculin test, sent to the Chicago stockyards fourteen cattle that had been found tuberculous by the tuberculin reaction. The cattle were killed and after examination by the state and federal inspectors all were condemned as being seriously infected with tuberculosis. Two cows which had not reacted were found free from tuberculosis. According to the newspapers, tuberculin tests of cows furnishing milk for the Kansas City market show that nearly fifty per cent. are infected, and so many were condemned as temporarily to curtail the milk-supply going to that market. The cattle owners there are likewise protesting against the condemnation of their cattle. Following the Chicago demonstration of the accuracy of the tuberculin reaction in cattle furnished by the opponents of the test, the Illinois legislature should carefully consider this feature of the bill referred to before making it a law. Large numbers of similar demonstrations in this country have shown the relative accuracy of the test. There can be no question of the value of the tuberculin test of cattle, and the passage of a law by the Illinois legislature prohibiting this test and substituting, as proposed, the ordinary clinical tests, would be a distinctly backward step, one not in the interest of the health of the people of the state. The milk-producers of Illinois and adjoining states have an association primarily to further legislation of this character in their own interests, and at a recent meeting, plans were laid for the formation of a national association. Hence the question is likely to become broader than one affecting a single state.

PHARMACEUTICAL JOURNALS AND THE NOSTRUM

We had something to say elsewhere[1] as to the attitude of the pharmaceutical profession and pharmaceutical journals concerning the advertisement and sale of nostrums. Attention was called to two journals which had adopted a policy of consistency, and which were supporting THE JOURNAL's propaganda against the nostrum evil. It appears from recent utterances against certain widely advertised nostrums that the *Pacific Pharmacist* of San Francisco belongs also in the ranks of those journals which regard professionalism as higher than the good will and patronage of "patent medicine" fakers. In the December (1910) issue—commendably clean in its advertising pages—the *Pacific Pharmacist* continues the publication, under the head of "Propaganda for Drug Reform," of a list of nostrums condemned by the Department of Agriculture under the Food and Drugs Act, and calls "particular attention to cancer and headache fakes." In an editorial on vicious advertising, in the same issue, the *Pharmacist* says: "We cannot think of any good reason why our daily papers should be permitted to continue their vicious advertising." Reference is made to a number of that class of advertisements appearing in a San Francisco daily paper, and the opinion is expressed that such advertising should be made a criminal offense. In the same issue, also, a correspondent, commenting on the work of the Council on Pharmacy and Chemistry of the American Medical Association, says that pharmacists "are in sympathy with those who are trying to eliminate drugless drugs and with those who are endeavoring to make drugs of value to be of standard quality," and that "the representative physicians of the United States recognize in the pharmacists a spirit of cooperation and the ability to assist them in this noble enterprise." Evidently the leaven is working, and ere long other pharmaceutical journals will get in line, and, together with their three pioneer contemporaries, will be able to render most valuable assistance in cleaning up the nostrum business, as it affects both the public on the one hand and the medical and pharmaceutical professions on the other.

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[1] THE JOURNAL Jan. 28, 1911, p. 274.

GLUTEN FLOUR

In previous issues attention has been called to many so-called gluten flours and their supposed value in the dietary of diabetics. The misconception as to the value of the gluten content, rather than the absence of the carbohydrate element, on which their value really depends in diabetes, was emphasized. It was further pointed out that the regulations concerning the percentage of gluten and of carbohydrates and the branding of such products under the Food and Drugs Act are unsatisfactory and tend to be misleading. In this issue is an abstract of the discussions on the subject of gluten flour at the Second International Congress for the Repression of Frauds. This is a purely commercial body, and its discussions are interesting as showing the attitude of the various members—manufacturers, bakers, pharmacists, physicians—on this subject. The physicians insisted that in making a definition for gluten flour or bread it was just as important, or more important, to state the maximal permissible quantity of carbohydrates as it was to state the permissible minimum of gluten. The definition finally adopted was much more satisfactory than the requirements of our Food and Drugs act, in that it provides that "only breads containing a maximum of 25 per cent. of wheat starch and a minimum of 60 per cent. gluten, calculated on the basis of dry material, shall be called gluten bread." While 25 per cent. is a dangerously high proportion of carbohydrate for a diabetic food, yet it is much safer than many of the so-called diabetic breads and flours at present on the American market. A maximum of 10 per cent. of carbohydrates for all flours or foods advertised for diabetics would, as a legal requirement, do much to protect the sufferers from this disease and would work no hardship on the manufacturer. Further than that, all such products should be plainly labeled so as to show the actual percentage of carbohydrate content. When this is done one of the most disgraceful and dangerous of the many frauds perpetrated by American food manufacturers will have been eliminated.

SANATORIUM TREATMENT OF TUBERCULOSIS

An interesting and encouraging indication of the possibilities of the sanatorium treatment of tuberculosis in the climate of Illinois is afforded by the report of the Edward Sanatorium at Naperville, which we recently summarized in our News Department.[1] In an illustrated pamphlet, the medical director, Dr. T. B. Sachs, reviews what has been accomplished in the four years since the founding of the institution, which consists of a farm of forty acres and the equipment. The latter has been developed until it now comprises a medical building with laboratories, an infirmary, an assembly room, a service hall, open-air shacks, tents, etc., for the accommodation of sixty patients. Modern hygienic and dietetic methods of treatment are in force, two objects being kept in view: the arrest of the tuberculous process, and the restoration of the earning power of the patients. Originally independent, the sanatorium is now conducted under the auspices of the Chicago Tuberculosis Institute. To January, 1911, over 400 patients had passed through the sanatorium, the average stay of each being about four months, and in the report 277 cases are analyzed. The results reported are surprisingly favorable. Of 176 patients in the incipient stage 161 or 91.5 per cent. at the beginning of 1911 were in apparently normal health, with full working capacity, at periods of from six months to three years and nine months since their discharge. In addition, 5.1 per cent. possessed partial working capacity. Of ninety-one moderately advanced cases, 32 patients or 35.1 per cent. had full working capacity, while 16.5 per cent. had partial working capacity. On admission, each patient is studied thoroughly by all the methods of physical diagnosis and the laboratory. Absolute rest is enforced until any constitutional disturbance subsides and nutrition improves; then exercise is gradually introduced, and later graded work becomes a feature. The work is individualized and made agreeable. Recreation and amusement are provided and most of the time of the patient is spent out of doors. The report shows that, even in a climate which seems inimical to the best results in the outdoor treatment of tuberculosis, under a proper study of cases and a proper régime, carefully and intelligently carried out, an excellent showing can be made anywhere in the treatment of tuberculosis, as has also been demonstrated in the Adirondacks and elsewhere. One important effect of such sanatorium treatment is that the patients discharged have received such an education in right living that their influence after returning to their families and friends must be most salutary.

Medical News

ILLINOIS

Auxiliary Staff at County Hospital.—To facilitate the performance of emergency operations at Cook County Hospital, the Civil Service Commission has appointed six physicians to assist the regular attending staff. The new positions of chief of staff, night surgeon, and medical statistician have been created at the hospital.

Personal.—Dr. Joseph P. Pecival, formerly superintendent of the State Hospital for the Insane, Norfolk, Neb., has been appointed superintendent of the Cook County Institutions, Dunning.——Drs. John A. Graham, George N. Pratt and Hugh N. MacKechnie, Chicago, have been appointed as the voluntary attending medical staff in the Oak Forest Infirmary. One of the new appointees is to visit the institution each day.——The damage suit instituted against Dr. John W. Daugherty, Chillicothe, in which $20,000 was claimed by the plaintiff on account of alleged malpractice, came to an abrupt ending, January 17, as the plaintiff failed to make her case.

Another Suit Against Illinois Board.—It is reported that the Littlejohn College and Hospital, formerly known as the

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[1] The Journal, Jan. 14, 1911, p. 126.

American College of Osteopathic Medicine and Surgery, has begun mandamus proceedings against the Illinois State Board of Health to secure recognition of that college by the board. The charge is that the board is unlawfully discriminating against that college. The suit filed for a similar purpose by the National Medical University in December, 1909, is still pending but that college is still unrecognized.

Bills Introduced in Legislature.—Two bills providing for a board of examiners in optometry have been introduced in the General Assembly, namely Senate Bill 140, by Mr. Brown, and House Bill 121, by Mr. Hagan. During last week the following bills were introduced: Senate Bill 155, by Mr. Hurburgh, to appropriate $100,000 a year for the College of Medicine of the University of Illinois; House Bill 149, by Mr. Chipperfield, to establish a state surgical institution for children under 14 years; and House Bill 152, by Mr. Perkins, to amend the pure food act.

Chicago

Women Physicians Reorganize.—At a meeting, held in the Fine Arts Building, February 1, by fifty women physicians of Chicago, it was voted to reorganize the Chicago Medical Women's Club. It is intended to launch an educational campaign in which milk, food and health problems will be publicly discussed.

A Saner Fourth.—At a meeting of the Sane Fourth Association, held February 8, it was decided to have a great celebration in Grant Park, and in addition to utilize every small park and public playground. It is intended that each nationality shall participate in the general and special celebrations, that folk songs and dances shall be made special features in certain localities.

Personal.—Dr. Alice Hamilton of the Memorial Institute for Infections Diseases, who investigated the lead industries in Chicago and Illinois, with reference to lead poisoning, for the Illinois Commission on Occupational Diseases, has undertaken similar work for the federal government.——A prospectus received announces that, after nearly twenty years of labor on an English translation of the "Papyrus Ebers," Dr. Carl H. Von Klein (who may be addressed in care of the John Crerar Library, Chicago) has completed the task and will publish a subscription edition.

KENTUCKY

Medical Society Election.—At the meeting of the Jessamine County Medical Society, held in Nicholasville, Dr. Thomas R. Welch was elected president; Dr. Daniel A. P. Lenick, vice-president, and Dr. J. A. Van Arsdall, secretary-treasurer, all of Nicholasville.

Appropriation for Babies' Milk Fund.—As the result of the plea of Mrs. Litchworth Smith, president of the Babies' Milk Fund Association, made in an address before the fiscal court of Jefferson County, the sum of $1,500 was unanimously voted for the benefit of the association toward its expenses this year.

Moving Pictures for the Insane.—Arrangements have been made by the new state board of control of charitable institutions to install a moving-picture machine at the Central Kentucky Asylum for the Insane, Lakeland. By the contract, patients are to be given two shows a week with six new films at each performance.

Expense Falls on Hospital Commission.—It is announced that the expense attached to the temporary housing of patients, during the construction of the new Louisville City Hospital, must be borne by the Hospital Commission alone. The section in the law which created the Hospital Commission makes it optional with the city whether or not it shall bear the whole or part of the expense attached to the temporary housing of the City Hospital patients.

MARYLAND

Honor System Adopted.—The students of the Medical Department of the University of Maryland have adopted the honor system and have drawn up a code of laws for carrying it out.

Personal.—Dr. James J. Murphy has succeeded Dr. George Wells as chief of the medical staff of Annapolis Emergency Hospital.——Dr. Richard C. Massenburg is reported to be ill with bronchitis at his home in Towson.

Dispensary Report.—At the annual meeting of the Northeastern Dispensary, Baltimore, Dr. Arthur Wegefarth was elected president, and Dr. Alexander D. McConachie, secretary. During the year nearly 20,000 patients were treated at the dispensary; 23,332 prescriptions were filled, and 1,074 visits were made to patients' homes.

New Hospital Buildings.—A stone hospital is to be built at St. Mary's Industrial School near Baltimore to cost about $25,000.——An additional hospital building to accommodate 200 patients is to be erected at the Maryland Tuberculosis Sanatorium. It will contain also quarters for physicians, nurses and help, offices, kitchen and living room.

Health Conference.—At the health conference held in Osler Hall, February 6-11, under the auspices of the Medical and Chirurgical Faculty of Maryland, Dr. William H. Welch presided. Among the many important addresses presented were those by Dr. Woods Hutchinson, New York City, on "How the Public Educates the Medical Profession;" Dr. Henry H. Goddard, Vineland, N. J., on "The Feeble-Minded Child as a Menace to Society, Socially and Morally;" Dr. Lyman F. Kebler, Washington, D. C., on "Advertised Cures for Tuberculosis;" Dr. F. Park Lewis, Buffalo, on "Good Sight as a National Asset;" Dr. Cressy L. Wilbur, on "Unrecorded Babies;" Dr. Llewellys F. Barker, Baltimore, on "Prevention of Nervousness in Children and the Protection of the Nervous Child," and Dr. Ronald Godfrey Freeman, New York City, on "The Relation of Good Milk to Infant Mortality."

MASSACHUSETTS

Alumni Meeting.—The annual meeting of the Boston City Hospital Alumni Association was held February 15. In the morning there were demonstrations of cases in the hospital, followed by a luncheon in the library.

Association of Boards of Health Meets.—The Massachusetts Association of Boards of Health, held its annual meeting, January 26, and elected the following officers: president, Dr. Henry P. Walcott, Cambridge; vice-presidents, Drs. Samuel H. Durgin, Boston, and Charles V. Chapin, Providence, R. I.; secretary, James C. Coffey, and treasurer, James B. Field.

Personal.—Dr. Dwight S. Woodworth has been appointed a member of the board of health of Fitchburg.——The following appointments have been made to the medical staff of the Tuberculosis Commission of Lawrence: chief of staff, Dr. Charles G. Carleton; ophthalmologists, Drs. William H. Merrill and Frank A. Conlon, and medical staff, Drs. John J. Bartley, J. Forrest Burnham, John J. O'Sullivan, Harry H. Nevers, John H. Tobin, Victor A. Reed, George B. Sargent and Granville S. Allen.

Medical Council Meeting.—At the annual meeting of the Council of the Massachusetts Medical Society, Dr. David L. Edsall, St. Louis, formerly of Philadelphia, was appointed the Shattuck Lecturer at the annual meeting of the society in June, 1911. The following delegates were elected to American Medical Association: Dr. Frederick H. Thompson, Fitchburg; Frank G. Wheatley, North Abington, and Hugh Cabot, Boston; alternates, Drs. Isaac S. F. Dodd, Pittsfield; Allen Greenwood, Waltham, and Fred T. Murphy, Boston; Maine Medical Association: Drs. George K. Blair, Salem, and Herbert W. Manahan, Lawrence; New Hampshire Medical Society: Dr. George Z. Goodell, Salem, and Omer P. Porter, Lowell; Rhode Island Medical Society: Drs. Allen Greenwood, Waltham, and Nathaniel S. Hunting, Quincy; Connecticut State Medical Society: Drs. Everett A. Bates, Springfield, and Samuel B. Woodward, Worcester; council on medical education of the American Medical Association: Dr. Harold C. Ernst, Boston, and alternate, Dr. Horace D. Arnold, Boston; auditor, Dr. Chauncey C. Sheldon, Lynn, and member of committee on publication to succeed Dr. John C. Munro, deceased, Dr. Edward W. Taylor, Boston. It was voted to pay the mileage of delegates to meetings of the American Medical Association, and to instruct delegates to make reports to the council after the meeting. It was also voted that on the first annual meeting of the society each section should elect its officers for the coming year. It was voted that the revised list of medical schools and colleges in the United States and Canada be the standard on which future fellowship in the Massachusetts Medical Society be based.

MICHIGAN

Clinic at Harper Hospital.—The medical staff of Harper Hospital, Detroit, will give medical, surgical and laboratory clinics at the institution, February 24 and 25 from 8 a. m. to 5 p. m. The medical profession is invited to be present. It is the aim of the staff to hold several of these clinics each year. The program includes medical and surgical clinics and practical laboratory work. No charges or fees are made for these clinics.

Personal.—Dr. John V. Frazier, Lapeer, has been appointed a member of the Board of Control of the State Home for the Feeble-Minded in that city.——Dr. Clark E. Spencer, Port Huron, is reported to be seriously ill at his home.——Dr. Don D. Knapp has been appointed health officer of Flint, vice Dr. Myron A. Patterson, resigned.——Dr. John H. Kellogg, Battle Creek, has been appointed a member of the State Board of Health, vice Dr. Angus McLean, Detroit, and Dr. Thomas M. Koon, Grand Rapids, has succeeded Dr. Malcolm C. Sinclair, Grand Rapids, as a member of the board.

MISSOURI

Decide Site for Children's Hospital.—The Hospital and Health Board of Kansas City have decided to erect the new children's hospital on the southeast corner of the new general hospital grounds.

Committee on Public Health.—Dr. Jefferson D. Griffith, Kansas City, president of the Jackson County Medical Society, has appointed the following committee on public health and registration: Dr. Franklin E. Murphy, Andrew W. McAlester and Rush E. Castelaw. One member of this committee, will, it is expected, meet with the mayor at the executive committee meeting of the city council each Monday morning.

Personal.—A fire at Denver, February 4, totally destroyed the office of Dr. Calvin F. Forbis.——Dr. and Mrs. Benjamin Belove, Kansas City, have returned after two years abroad. ——Dr. James R. Hull has sold his interest in the Monroe Hospital, Monroe City, to Dr. John N. Southern.——Dr. Jesse E. Hunt, school inspector of Kansas City, has resigned.—— Dr. John M. Doyle, St. Joseph, physician of Buchanan County, has resigned and has been succeeded by Dr. James K. Graham, St. Joseph.——Dr. William C. West, Kansas City, while making a professional call, was attacked by a negro, whom he put under arrest. He was stabbed twice in the breast but not seriously injured.

St. Louis

Changes at St. Louis University.—At the St. Louis University School of Medicine, Dr. Charles Hugh Neilson, formerly professor of physiologic chemistry, has been advanced to the chair of medicine which has been placed on a salary basis. It is planned to have other clinical chairs likewise placed on a salaried basis so that the appointees may devote their entire time to the work in their departments.

Acquitted of Failure to Report Disease.—Dr. John H. Kern, charged with having failed to report a case of chicken-pox to the board of health, and fined $25 in the police court, was discharged by Judge Miller in the court of criminal correction. Judge Miller, in his decision, says in effect that a physician is not a scout or detective, and it is not his business to go into homes and ascertain the existence of a contagious disease, even though he may suspect that such disease exists.

Personal.—Dr. Henry Hanson, Webster Groves, has been appointed physician of St. Louis County.——Dr. Charles H. Dixon, who has been seriously ill in Cleveland, is reported out of danger.——Dr. Amand N. Ravold, medical director of the Missouri State Life Insurance Company, has resigned.——Dr. George Buckner is reported to be seriously ill with septicemia. ——Washington University announced, February 10, the appointment of Dr. Fred T. Murphy, Boston, as professor of surgery in its medical department.

NEW YORK

Personal.—Dr. Anna M. Stuart has been appointed city bacteriologist of Elmira.——At the meeting of the Elmira Academy of Medicine, February 1, Dr. Arthur K. Bennett, who recently returned after ten years missionary service in Persia, read a paper on vesical calculus, with special reference to conditions found in Persia.

Newell in Rochester.—At the meeting of the Section of Obstetrics, Gynecology and Pediatrics of the Rochester Academy of Medicine, February 15, Dr. Franklin S. Newell, Boston, delivered the address of the evening on "The Requirements of Modern Obstetrics." A dinner was given in honor of Dr. Newell prior to the meeting.

Macdonald Memorial.—An association has been formed for the purpose of raising funds for a memorial for Dr. Willis G. Macdonald, and Governor Dix has been named president. A meeting was held in Albany, on February 3, where plans were discussed for raising the sum of $100,000. The memorial will probably take the form of a laboratory for Albany Medical College.

Probing State Hospitals.—The stewards of the various state hospitals held a conference at Utica on January 21, with a representative of the auditing committee which is engaged in investigating the affairs of the state hospitals. A searching investigation is being made and recommendations were made as to improvements in methods and system of accounts and caring for supplies and property.

Plan for Milk Commission.—As a result of the disclosures in connection with the milk business, especially in New York City, a bill has been introduced into the legislature by Assemblyman Foley, which provides for the appointment of a milk commission to have general supervision over the milk dealers in the state and over persons buying and selling milk in cities of the first class, the commission to consist of three persons appointed by the governor at an annual salary of $5,000 and the principal office to be in New York City. The measure provides that the commission shall have the power to investigate the quality and price of milk and to fix standards of quality. The bill carries an appropriation of $5,000.

Lecture on Public Health.—Monroe County Medical Society plans to give Rochester the benefit of a series of free lectures on preventive medicine and public health. The series will consist of eight lectures given on alternate Friday nights during February, March and April. The first lecture was given by Dr. F. Park Lewis, Buffalo, February 3, on "Conservation of Vision." The subsequent lectures are on "Occupational Diseases and Their Prevention," by Dr. Eugene H. Porter, state health commissioner; "Deformities and Their Prevention," Dr. Wisner R. Townsend, New York City; "Cancer and Its Cause and Prevention," by Drs. William S. Bainbridge, New York City, and Harvey R. Gaylord, Buffalo, and "Prevention of Insanity," which will be given in cooperation with the State Charities Aid Association.

New York City

Lying-In Hospital Alumni Meet.—At the meeting of the Alumni Association of the Lying-In Hospital of the City of New York, held at the Harvard Club, February 14, the paper of the evening was read by Dr. John O. Polak, Brooklyn, on "What Can We Expect From the Vaccine Treatment of Puerperal Sepsis."

Personal.—At the eighteenth annual dinner of the Long Island Medical Society, held in Brooklyn, February 7, the guest of honor was Dr. John O. Polak, one of the oldest members of the association.——Dr. William S. Bellows, Jamaica, who has been traveling in search of health for the last five months, has returned home.

Crusade Against Spitters.—Health Commissioner Lederle has announced that 160 persons have been arrested since January 1 in the crusade against the spitting nuisance. Of sixty persons arrested during the first week in February, forty were fined and in sixteen sentence was suspended. Only fourteen out of the 160 have been discharged outright.

Annual Report of Dispensary.—Dr. Alfred H. Riedel, house physician and registrar of the North-Western Dispensary, reports that this is the only institution in the city of New York which furnishes everything absolutely free to its applicants. During 1910 the total number of patients treated in the clinics was 17,538; the total number of visits made to patients at their homes was 9,178.

Medical Lecture Series.—The Educational Alliance has planned a series of lectures on medical topics to be given during February, March and April at Alliance Hall. The first lecture will be given by Dr. William M. Polk, president of the Academy of Medicine, on February 23, on "Medical Ethics and Their Application to Practice;" the second on March 30, on "Gynecologic Operations by the General Practitioner," by a lecturer to be announced later, and a third on April 23, by Dr. J. Brettauer on the "Secret Division of Fees."

Infantile Paralysis.—Health Commissioner Lederle has announced that since the Health Department, on November 1 last ordered that physicians report all cases of infantile paralysis as a communicable disease, eighteen cases have come to the attention of the Health Department. The division of communicable diseases has been giving special attention to this affection. Inspectors have been instructed to be very careful and exact in obtaining information as to periods of incubation and infectivity, since negative may be as important as positive findings.

Medical Society Secures Appeal.—A new trial was ordered in the appelate division of the supreme court, February 3, in favor of the New York County Medical Society, which appealed from a judgment of $7,500 obtained against it by Paul Schmitt, charged with practicing medicine without legal authority. The court, in its opinion, stated that at the trial the evidence established in substance that the real plaintiff was not authorized to practice; that he held himself out as Dr. Schmitt and claimed that he could cure glanders; that an article appeared in a newspaper to the effect that a Dr. Gannett was in Bellevue Hospital suffering from glanders, and that this article was shown to the plaintiff by one Conrad, who, at the time, said he had written to Dr. Gannett, the letter being signed "The Department of Glanderine, per C. Conradus, Secretary," offering to cure him free of charge.

Approves Directory.—At a meeting of the Medical Society of the County of New York, January 23, a preamble and resolutions were adopted setting forth that a communication had been received from the Medical Society of the County of Chemung, advocating the discontinuance of the Tri-State Medical Directory, similar communications having been sent to other county medical societies in the state; recording the disapproval of the Medical Society of the County of New York of any effort to discontinue the directory; instructing its delegates to the state society to oppose strenuously any effort to discontinue the directory, and directing that a copy of the resolutions and the reasons therefor be sent to the secretaries of the county medical societies of the state, and the officers and members of the house of delegates. These reasons are that the directory is of supreme importance to the physicians of the cities which furnish the overwhelming majority of the membership of the state society; that the abolition of the directory would cause a loss of membership; that the employment of the directory is reciprocal between city and country practitioners; that the directory has proved to be a most efficient collector, as members are anxious to appear in good standing; that the directory is regarded as authoritative by boards of health, life insurance companies and other business concerns; that the directory is the most potent weapon against quackery; that the directory is an absolute necessity to larger medical societies; that the expense charged to the directory may be misleading in some particulars, and is counterbalanced in some measure by the income from advertising and sales; and that the directory is one of the most important material benefits in building up a powerful organization of medical societies.

NORTH CAROLINA

Personal.—Wake Forest College has secured Dr. W. T. Carstarphen for the chair of physiology in the department of medicine.——Dr. Franklin W. Griffith has located in Asheville.

Hookworm in Asheville.—Dr. Claude L. Pridgeon, one of the Hookworm Laboratory workers, reports, as the result of the examination of scholars in Asheville City graded school, that from 25 to 40 per cent. are infected with the hookworm.

Society Meetings.—At the annual meeting and banquet of the Buncombe County Medical Society, held in Asheville, the following officers were elected: president, Dr. Clyde E. Cotton, Black Mountain; vice-president, Dr. Charles L. Minor, Asheville; secretary-treasurer, Dr. Gaillard S. Tennent, Asheville, and Drs. S. Westray Battle, Marshall H. Fletcher and Carl V. Reynolds, all of Asheville, delegates to the State Medical Society.——Wake County Medical Society at its annual meeting held in Raleigh, January 12, elected Dr. J. A. J. Penny, Roger's Store, president; Dr. Joel Whitaker, Raleigh, vice-president; Dr. William C. Horton, secretary, and Dr. Kemp P. Battle, Jr., treasurer.

OHIO

Personal.—Dr. George W. Crile has succeeded Dr. Dudley P. Allen as chief of the visiting and surgical staff of Lakeside Hospital, Cleveland.——Dr. Andrew J. Timberman, Columbus, has returned after a trip to India.——Dr. Charles O. Probst, secretary of the State Board of Health, Columbus, is reported to be ill with influenza.——Dr. Solomon B. Hiner, Lima, is reported to be seriously ill with pneumonia.——Dr. Jacob J. Coons, Columbus, has been appointed pathologist of the State Board of Health.——Dr. Oscar H. Sellenings has succeeded Dr. Jacob A. Stout as president of the Columbus Board of Health.

Elections.—At the annual meeting of the Cleveland Medical Library Association, the following officers were elected: president, Dr. Charles B. Parker; vice-president, Dr. Benjamin L. Milliken, and secretary, Dr. Henry L. Sanford. It was announced that the sum of $150 has been offered by a friend of the library for a prize for the best medical paper on any subject in medicine and surgery to be submitted to a committee of judges before September 1, the competition to be open only to members of the library who have graduated within the last ten years.——At the annual meeting of the Lakeside Hospital Alumni Association, held January 18, the annual address was delivered by Dr. Alexander Primrose, Toronto. Dr. Henry L. Sanford was elected president; Dr. Arthur H. Bill, vice-president, and Dr. Gilchrist, secretary-treasurer.

Cincinnati

New Board of Health Official.—The Cincinnati Board of Health, at a recent meeting, established the position of kitchen inspector, the position to be filled by a woman at a salary of $600 a year.

Report of Antituberculosis League.—The financial report of the Cincinnati Antituberculosis League shows total receipts of $22,777.96, and disbursements of $6,017.68. Dr. Otto P. Geier was elected president; Dr. Samuel Iglauer, secretary, and Drs. Samuel E. Allen, John M. Withrow, Edwin W. Mitchell, Albert Faller, H. Kennon Dunham and William H. Strietman, trustees.

PENNSYLVANIA

Officers Elected.—At the organization of the Allegheny Valley Branch of the Allegheny County Medical Society, the following officers were elected: President, Dr. Adam C. Davis, Hites; vice-president Dr. William F. Ross, New Kensington; clerk, Dr. Nannie M. Latimer, Tarentum; and treasurer, Dr. Thomas E. McConnell, Parnassus.

The Afflicted.—While Dr. David H. Bemis, West Middletown, was making a professional call, his horse slipped and fell on him, fracturing his right leg.——Dr. Edward G. Husler, Carnegie, is in the West Penn. Hospital, Pittsburg, suffering from cerebral hemorrhage.——Dr. Wilmer R. Batt, Harrisburg, is reported to be convalescent after an operation for appendicitis.

State to Adjust Hospital Appropriations.—In order to adjust state appropriations to hospitals, the house appropriation committee has obtained a report showing the number of free days of treatment given by each hospital of the state in the last two years and Governor Tener and legislative leaders are agreed that state money shall go largely to hospitals giving most public benefit.

State Aid for Charity.—The preliminary report of the Board of Commissioners of Public Charities suggests that steps be taken for the examination of the several systems of children's aid as now dispensed, with the view to the establishment of a uniform system on a more substantial and exalted plane. The amount asked by Philadelphia institutions was $4,772,000, and the amount recommended for distribution by the board was $2,252,000.

Personal.—Dr. Samuel G. Dixon, Harrisburg, has been reappointed state health commissioner.——Dr. Ira J. Dunn, Erie, has returned after six months abroad.——Dr. James F. Edwards, superintendent of infectious diseases, has resigned the chairmanship of the Pittsburg Tuberculosis Commission.——Dr. George R. Vernon, president of the Clifton Heights Board of Health, has resigned.——Dr. John Todd has been reelected president of the Pottstown board of health for the eighteenth consecutive term.

Philadelphia

Addition to Hospital Opened.—The children's building of the Samaritan Hospital was opened January 19. The new building is erected to the memory of the late James L. Miles, and is the latest annex of the hospital. It contains, in addition to the children's ward, a large number of private rooms.

Statue for College of Physicians.—A heroic-sized statue of the Greek physician, Æsculapius, cut in a beautiful block of Carrara marble by the Roman sculptor, Maneti, will be presented to the College of Physicians at its next meeting. The statue is a gift of Dr. Richard H. Harte, a member of the college, and was originally intended to occupy a niche at the first landing of the marble staircase, but it is thought that it may have to be erected elsewhere, owing to its great size and weight.

Census of Defective Children.—The census of defective children in the public schools of the city is now complete and shows that there are 11,543 mentally deficient pupils. Three kinds of deficiencies are considered in the report: First, the physically deficient, embracing the blind, deaf, speech defectives, crippled and epileptics; second, the mentally deficient, backward, feeble-minded and imbecile and third, the morally deficient, truants and incorrigibles. The first class, backward children who require instruction by special methods in small special classes, number 1,857 boys and 1,063 girls; and dull children, who would be benefited by special instruction, 3,362 boys and 3,241 girls; class 2, feeble-minded children who should properly be in custodial institutions, 287 boys and 165 girls; girls 3, truant, incorrigible and vicious children of defective mentality, who should be segregated in special schools, 387 boys and 607 girls; truant, incorrigible and vicious children of fair mentality who should be segregated in special schools, 1,082 boys and 40 girls.

Personal.—Dr. S. Weir Mitchell has been renominated as a member of the board of managers of the University Museum. ——Dr. George W. Merscher, chief resident physician of the Germantown Hospital, was operated on in that institution, February 7, for appendicitis.——Dr. Joseph Walsh has returned from a three months' tour of Egypt and the Orient. ——Dr. Owen Copp, Brookline, Mass., for twelve years head of the Massachusetts State Board of Insanity, has been appointed physician-in-chief and superintendent of the Pennsylvania Hospital for the Insane, known as Kirkbride's.——Drs. Charles K. Mills and William G. Spiller have been elected foreign corresponding members of the Paris Society of Neurology.——Dr. Charles Furbush, chairman of the milk Commission, has been appointed by Mayor Reyburn to represent Philadelphia at the International Exhibition on Hygiene, to be held in Dresden in May.——Dr. Edward A. Spitzka, professor of general anatomy in the Jefferson Medical College, is recovering from a serious attack of blood poisoning. ——Dr. Jesse O. Arnold has been elected president of the Samaritan Hospital Medical Club.——Dr. J. William White has been made a trustee of the University of Pennsylvania; Dr. John B. Deaver, clinical professor of surgery, and Dr. Milton B. Hartzell, professor of dermatology.

Children's Hospital Plans Completed.—The architects have completed plans for the group of buildings to be erected at Eighteenth, Fitzwater and Bainbridge Streets, for the Children's Hospital, the cost of which, when completed, will be $500,000. The group will consist of an administration building, dispensary, nurses' home and ward building in the Georgian style of architecture, fire-proof and set well within its own grounds and surrounded by an open iron fence. The site measures 308x203 ft., includes half a block and was donated by Eckley B. Coxe, Jr., one of the board of managers, who gave $100,000 for the purpose. Several houses have since been purchased for space for a power plant, laundry, etc. The buildings will conform to the latest ideas in hospital construction; covered passageways join the various buildings, forming elevated walks free from dampness; wards light and airy, three roof gardens for convalescents and thorough screening for the exclusion of flies.——Mrs. Anne McMichael Hoyt has conveyed to the Children's Hospital the residence at the southeast corner of Twenty-Second and Chancellor Streets, with a stable in the rear. These properties were presented to the hospital, which they adjoin, as a memorial to her deceased father, Morton McMichael. This gift greatly enhances the value of the present hospital, the sale of which will give fully half the money required for the new buildings.

Society Notes.—At the annual meeting of the Philadelphia Neurological Society, January 27, the following officers were elected: president, Dr. Alfred R. Allen; vice-presidents, Drs. John H. W. Rhein, and Samuel D. Ingham; secretary, Dr. George E. Price; treasurer, Dr. S. DeWitt Ludlum; and councilors, Drs. James H. Lloyd, H. H. Donaldson, and Francis X. Dercum.——The physicians and druggists of the northern section of the city have organized the Northern Medical League for the purpose of furthering the mutual interests of its members, financially, scientifically and to build up a better ethical relationship between the two professions. Bi-monthly meetings will be held and the following officers have been elected: President, M. B. Loeb; vice-president, G. Azoff; secretary, Dr. Harry S. Snyderman; treasurer, Dr. Harry A. Stembler.——At a banquet February 6, the Northwestern Medical Society changed its name to "The Philadelphia Clinical Association," and elected the following officers: president, Dr. G. Morton Illman; vice-president, Dr. J. Edward Wallis; secretary, Dr. Harry Hudson; treasurer, Dr. William McKeage; executive committee, Drs. Harry A. Duncan, Daniel Longaker and Moses Behrend; board of censors, Drs. Samuel M. Wilson, Lewis S. Somers and Winslow Drummond.——The new officers for 1911 for the section on otology and laryngology of the College of Physicians are Dr. Arthur W. Watson, chairman, and Dr. Ralph Butler, clerk.——At the recent meeting of the Physicians' Motor Club, the following officers were elected for 1911: president, Dr. S. Leon Gans; vice-presidents, Dr. L. Webster Fox, Dr. J. J. Rebrecht, Dr. Richard C. Norris; secretary, Dr. J. Gurney Taylor; treasurer, Dr. Lewis H. Adler, Jr.; solicitor, B. Douglas Bartlett; directors for 3 years: Drs. Sylvester J. Deehan and H. Augustus Wilson; for 2 years: Drs. Ernest W. Kelsey and Francis J. Kelly; for 1 year: Drs. T. J. Ellinger and E. S. Saylor; for four years: Drs. Charles R. Haig, Jr., and Ellwood R. Kirby.——The section on ophthalmology of the College of Physicians elected Dr. William M. Sweet chairman and Dr. Thomas B. Holloway, clerk.

TEXAS

Medical Association Organized.—The Lavacca County Medical Association has been organized at Halletsville with Dr. Paul Renger, president, and Dr. W. W. Shropshire, secretary.

State Board Election.—At the first meeting of the State Board of Medical Examiners, held in Austin, February 7, organization was perfected and the following officers were elected: president, Dr. William B. Collins, Lovelady; vice-president, Dr. Marquis E. Daniel, Honey Grove, and secretary, Dr. John D. Mitchell, Fort Worth.

State Board Appointments.—Dr. Ralph Steiner, Austin, has been appointed state health officer, and Drs. Benjamin M. Worsham, El Paso; William L. Crosthwaite, Holland; William B. Collins, Lovelady; George L. Baber, Winnsboro; John H. Evans, Palestine, and James D. Osborn, Cleburne, members of the State Board of Health, and John E. Rosser, Austin, registrar of vital statistics.

Personal.—In a fire at Rusk, recently, Drs. Andrew H. McCord and John F. Johnson lost their office furniture, books and instruments.——Dr. Robert M. Wickline has succeeded Dr. Louis H. Kirk, resigned, as health officer of Austin.——Drs. Hugo V. Heblin, Fort Worth, and I. Newton Suttle, Corsicana, have been appointed first lieutenants and assistant surgeons in the Medical Corps, Texas National Guard.

New Sanitariums.—Dr. Frank L. Barnes, Trinity, is about to erect a sanitarium at Trinity to cost $15,000.——Dr. Francis G. Floeckinger is building a sanitarium in Taylor, to cost $15,000.——Dr. James A. Caldwell, McKinney, has let the contract for his new sanitarium which is to be completed in May.——The control of the Baptist Sanitarium, Houston, has formally passed to the new company, to which a charter has been issued under the name Baptist Sanitarium and Hospital.

GENERAL

New President of Sanitary Commission.—Dr. Meverell K. Allen, Louisville, has been elected president of the Ohio River Sanitary Commission, vice Dr. Robert E. Vickers, Huntington, W. Va., resigned.

Physicians to Meet.—The twenty-third semi-annual meeting of the Missouri Valley Medical Society will be held in St. Joseph, Mo., March 16-18, under the presidency of Dr. Donald Macrae, Council Bluffs, Ia. Drs. Charles H. Mayo, Rochester, Minn., and Heinrich Stern, New York City, will deliver the addresses on surgery and medicine, respectively.——It is announced that the next annual meeting of the Association of State and Territorial Health Officers will be held in San Francisco, June 24-26, and that a joint meeting of the health officers of the United States and Canada will follow.——The fourteenth annual meeting of the American Gastro-Enterological Association will be held in Philadelphia, April 19 and 20. Among the more important papers on the preliminary program are those on "Stretching of the Pylorus in Benign Stenosis," by Dr. Max Einhorn, New York City; "Operative Treatment of Impermeable Cardiospasm," by Dr. Willy Meyer, New York City; "The Relation of Symptoms to Pathologic Findings in Cancer and Ulcer of the Stomach," by Dr. Joseph C. Bloodgood, Baltimore, and papers on "Duodenal Ulcer," by Drs. John A. Lichty, Pittsburg; James T. Pilcher, Brooklyn, N. Y., and Lewis Brinton, Philadelphia.

Manufacture and Distribution of Meningitis Serum.—The Rockefeller Institute for Medical Research now gives notice that it has discontinued the general distribution of antimeningitis serum which it has undertaken without charge ever since the discovery of this remedy, and will now devote to other lines of investigation the funds hitherto needed for gratuitous distribution of the serum, handing over to the public health authorities of municipalities and states, and to commercial establishments the routine preparation of the serum for general use. The Board of Health of the City of New York has undertaken the regular production of the serum and will provide for free distribution to all hospitals and to all physicians who apply for it. Statistics show that the death rate from cerebrospinal meningitis has been reduced to less than one-third of its former amount by the early use of antimeningitis serum. The serum is administered by being injected into the spinal canal by means of lumbar puncture, an operation which is also required to secure the fluid for bacteriologic diagnosis, and several separate injections are required in treating a patient. The effective employment of the serum is likely therefore to be restricted on account of the experience and skill required in the administration, and the high cost of the commercial product, unless the preparation, distribution, and, when necessary, administration are undertaken by state and municipal authorities.

Memorial to the Late Dr. Howard T. Ricketts.—The Mexican government has had Dr. Ricketts' works on Mexican typhus collected and published in Spanish in a handsome volume of over 135 pages entitled, "Howard Taylor Ricketts y sus Trabajos sobre el Tabardillo," with portrait and tribute to the memory of "the heroic research worker who died in consequence of tabardillo contracted in the course of his study of that disease." The volume contains the official documents relating to his death, his special articles written in collaboration with Dr. Russell M. Wilder on the etiology of the disease, and which were published in THE JOURNAL, and, thirdly, the addresses delivered at the unveiling of the memorial tablet in the laboratory at Mexico where Dr. Ricketts had carried on part of his research work. Copies of the memorial volume are to be presented by the Mexican government to the "principal universities, scientific societies, libraries and medical publications of the nations friendly to Mexico, and also to all the national Mexican scientific institutions." The volume opens with the official communication from the secretary of the department to Mrs. Ricketts informing her that the laboratory in which Dr. Ricketts had worked was to be renamed after him, that the scientific institutes in the City of Mexico were to be draped in mourning for three days, that a representative body of members of the faculties was to attend the funeral and cablegrams of condolence sent to the presidents of the universities of Chicago and Pennsylvania; the replies received are also given.

FOREIGN NEWS

Centennial of the Stockholm Medical School.—The Karolinska Medico-Kirurgiska Institutet at Stockholm recently celebrated its hundredth anniversary, concluding the festivities with the bestowing of honorary degrees on a number of foreign scientists. Five members of the faculty are on the board which awards the Nobel prizes.

The Nobel Prizes.—As our readers know, the Nobel prize fund awards five prizes each year averaging from $38,000 to $40,000 each. Since 1900 nearly two millions have been thus distributed to leaders in physics, literature, promotion of peace, medicine and chemistry. The list of the scientific recipients forms an international Hall of Fame, the chemists thus honored being van't Hoff, E. Fischer, Arrhenius, Ramsay, Baeyer, Moissan, E. Buchner, E. Rutherford, W. Ostwald, and the 1910 recipient, O. Wallach, professor of chemistry at the university of Göttingen. The recipients of the medicine prize have been von Behring, D. Ross, Finsen, Pawlow, Koch, Cajal and Golgi, Laveran, Ehrlich and Metchnikoff, Kocher and the latest recipient, A. Kossel, professor of physiology at the university of Heidelberg. The last physics prize was awarded to van der Waals, professor of physics at the university of Amsterdam, the last literature prize to P. J. L. Heyse of Germany, and the peace prize to the International Peace Bureau at Berne. The balance between the various countries has been maintained with remarkable impartiality but the majority of the prizes have gone to Germany. Only two have crossed the Atlantic, the peace prize given to President Roosevelt and the physics prize in 1907 to Professor Michelsen of the University of Chicago. It is a question whether the design of the founder of the prize fund has been realized to date; the awards have gone to men who were already resting on their laurels and the prizes have not served to foster new research to any extent. The committee in charge of the awards pays no attention to personal applications for prizes; the applications to be considered must come from scientific societies, institutions or other organized authority. It is possible that the greater preponderance of prize-winners in certain nationalities is because their institutions and societies have taken greater pains to present the claims of candidates in their respective nations.

CANADA

Brown Memorial Fund.—More than $10,000 has been subscribed to the memorial fund of the late Dr. Arthur A. Brown, Montreal, and it has been decided to endow a scholarship at McGill University.

Investigation of Typhoid Fever in Lumber Camps.—Senator De Veber, M.D., has secured an appropriation of $500 from the Dominion government for his committee to investigate typhoid fever in lumber and railway construction camps.

New Provincial Board of Health.—The following comprises the new Board of Health of the Province of Ontario: Chairman, Dr. Adam H. Wright, Toronto; chief health officer of the province and secretary of the board, Dr. J. W. S. McCullough, Toronto; and Drs. David B. Bentley, Sarnia; George Clinton, Belleville; William H. Howey, Sudbury, and James Roberts, Hamilton.

Hospital Notes.—Arrangements have been made whereby the Protestant Hospital for the Insane, Quebec, will receive $142 per patient each year from the government for a period of fifteen years.——In a suit brought for damages by a patient of Notre Dame Hospital, the hospital has won the victory.——The Charlotte Eleanor Englehart Hospital, Petrolia, has recently been opened.

Plans of Toronto Health Officer.—Dr. Charles J. C. O. Hasting, medical health officer of Toronto, estimates the expenses of his department at $159,000 for the current year. He contemplates the reorganization of the Toronto Health Department, the establishment, in addition to the chief of laboratories, of a secretary of health, bureaus of vital statistics, contagious disease and food inspection, hospital and ambulance service, and sanitation and a school for sanitary instruction.

Personal.—Sir Wilfred Thomaston Grenfell, the medical missionary of the Labrador coast, has been selected as the William Belden Noble lecturer at Harvard University for 1911 and 1912.——Dr. George R. McDonagh, Toronto, is taking a trip to Barbados.——Dr. William E. Struthers, Toronto, has been appointed chief medical inspector of schools.——Dr. John N. E. Brown, superintendent of Toronto General Hospital, has resigned and will study hospital administration abroad.——Dr. Fred J. Tees has resigned as superintendent of the Montreal General Hospital, and has been succeeded by Dr. George Shanks.——Dr. Louis Laberge has been retained as health officer of Montreal.

Toronto Demands License Power.—The dean of the Medical Department of Toronto University, in his annual report, advocates that the power of the Ontario Medical Council be curtailed as regards the standard of medical education and examination. He claims that the work of the medical department is hampered, owing to the fact that the council does not set a high standard for qualification and examination. An effort is being made by the university authorities to have the legislature pass an act whereby a graduate in medicine from Toronto University may enter at once into the practice of medicine without any further examination by the council.——A delegation from Queen's University, Kingston, has gone to Toronto to oppose the application of Toronto University that it be allowed to grant licenses to its graduates to practice medicine without passing the examination of the Ontario Medical Council.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 27, 1911.

The Candidacy of Mme. Curie and the Election of Dr. Branly to the Academy of Sciences

The candidacy of Mme. Curie (THE JOURNAL, Jan. 7, 1911, p. 53) brought up the question of the eligibility of women to the Institut de France, which was warmly discussed at the quarterly session of the five academies. A resolution was finally passed to the effect that it appeared altogether wise to respect immutable tradition on this point, but that the assembly did not assume to prescribe this course to the various individual academies. The Académie des sciences therefore presented Mme. Curie in the first rank of the list of candidates in the section of physics; in the second rank were presented Dr. Branly and four other candidates, among them Dr. Broca, *agrégé* professor at the Faculté de médecine, On January 23, the academy held the election. The contest narrowed down to Mme. Curie and Dr. Branly. There were fifty-eight voters. On the first ballot, Mme. Curie received twenty-eight votes and Dr. Branly twenty-nine. Dr. Branly, having received thirty votes or a majority on the second ballot, was elected.

Edouard Branly was born in Amiens in 1846. He received the degree of doctor of science in 1873, and was soon appointed professor of physics at the Institut catholique. In 1882, he received the degree of doctor of medicine. The researches which have brought him his greatest renown pertain to radioconductivity and thereby to wireless telegraphy. It may be said that the latter was rendered possible by the work of Branly, and the fact has been recognized by Marconi himself. If, as d'Arsonval says, every academy, whatever the number of its sections, really comprises only two classes of members, those who honor it, and those who are honored by it, it must be acknowledged that Branly belongs incontestably to the first category.

Salvarsan (606) and Syphilitic Nephritis

In the session of the Société médicale des hôpitaux, on January 20, Professor Widal and M. Javal made a report on the treatment by salvarsan of a patient with syphilitic nephritis, who for fourteen months had had an abundant albuminuria of from 10 to 14 gm. per liter. In the seven days following the administration of the drug (0.6 gm. by intravenous injection) the albuminuria presented no appreciable change; from the eighth to the seventeenth day it diminished from 10 gm. to 2.5 gm. per liter and in the following month, with slight oscillations, it continued to decrease from 2.5 gm. to 1 gm. It should be said that the patient had been treated, at the beginning of the nephritis, by several injections of biniodid of mercury, which had no action on the kidney. Salvarsan appeared on the contrary, to effect a decrease of the albuminuria, but it should not be forgotten that the two treatments were applied at very different periods of the affection; the mercury, at the moment of the edema and the greatest retention of chlorids; the salvarsan, when the renal permeability to chlorids had been much improved. It is probable that salvarsan does not produce the same effects at all periods of syphilitic nephritis. In any case, although the state of the kidney should be taken into account in treatment by salvarsan, incipient syphilitic nephritis being regarded as a contra-indication, this does not apply indiscriminately to all forms of renal syphilis or to all the periods of the disease.

Dr. Siredey has observed a patient affected with albuminuria, edema of the legs and purpura, in whom, six months after an indurated chancre, a sclerogummatous glossitis appeared. Mercury treatment was inefficacious and appeared to increase the albuminuria; an injection of salvarsan was employed. Seven days afterward a very marked improvement of the glossitis and a diminution of the albuminuria was observed.

Portraits at the Pasteur Institute

A portrait of Dr. Roux in his laboratory is about to be placed in the library of the Institut Pasteur, by the side of the bust of Pasteur, by Paul Dubois, and the portraits of Duclaux and Metchnikoff. Around these portraits are to be the busts of the benefactors of the institute, among whom are Alexander III, who was one of the first subscribers, Dom Pedro, second emperor of Brazil, Baron Alphonse de Rothschild, Osiris and others; then those of the former collaborators of Pasteur, Grancher, Nocard and Chamberland. The portraits of the last-named are by Dr. Paul Richer, member of the Académie de médecine and the Académie des beaux-arts.

Election of Dr. Sébileau to the Academy of Medicine

On January 24, the Académie de médecine elected a member in the section of anatomy and physiology to replace Professor Gréhant, who died last March. On the first ballot, Dr. Sébileau, *agrégé* professor of the Faculté de médecine de Paris and surgeon of the hospitals, was elected by forty-five votes against thirty-seven for Dr. Prenant, professor of histology at the Faculté de médecine de Paris.

Prizes Offered by the Belgian Academy of Medicine

The Académie royale de médecine de Belgique has offered a prize of 800 francs ($160) each, for studies on the following questions: (1) experimental research on the modifications produced in the peripheral and central parts by injections of alcohol into the nerve trunks; (2) a study of the lesions produced by hydrogen phosphid poisoning. The close of the competition is fixed for Feb. 15, 1912.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan 19, 1911.

Personal

Professor Nagel, director of the physiologic institute at Rostock, has just died at the age of 40. He joined the faculty of Tübingen in 1895 and after a short stay at Freiburg he was made head of a department in the physiologic institute in Berlin in 1902 whence he was called to Rostock as regular professor in 1908. The chief field of this gifted investigator was comparative physiology and the physiology of the senses. ——Professor Matthes, director of the clinic for internal medicine at the Cologne academy for practical medicine, has accepted the call to succeed Professor Brauer at Marburg.——Professor Uhlenhuth, of the imperial health office, has received a call to Strasburg as successor to Professor Forster.——Dr. Moro, privat-docent at Munich, has assumed the supervision of the Heidelberg pediatric clinic in place of Professor Feer who has gone to Zurich.

Transfer of the Prussian Medical Bureau From the Department of Education to the Department of the Interior

Medical affairs in Prussia have not, as in some other states, a special department and an independent position, but for many years have been attached to the so-called Kultusministerium, which has charge of ecclesiastical and educational matters. In consequence of the overloading of this department, the effort has repeatedly been made to separate the medical department from the Kultusministerium and transfer it to the department of the interior. In fact, the medical bureau originally belonged to the department of the interior, having been transferred to the department of education in 1849. Various reasons for and against the change have been urged, but the prevailing motive aside from the overloading of the Kultusministerium was the fact that the medical police was already a part of the department of the interior, and it was felt best that all medical affairs should be under one management. To the medical bureaus are subordinated in the first place the highest Prussian expert authority on medicine, namely the scientific deputation for medical affairs, and also the institute for infectious diseases in Berlin and a number of hygienic institutes in provincial cities, the medical investigation offices in the provinces, etc. This change cannot be considered of great importance. It will depend on the personality of the medical department and also on the head of the department of the interior whether matters of health and those affecting the medical profession will be conducted in the same way as before or not. No restriction in the requirements of the health office is to be feared, for any state which does not keep at the front in these matters would in a certain sense saw off the branch on which it is sitting.

A Salaried Municipal Medical Councilor in Berlin

The municipal health affairs of Berlin have heretofore not been conducted by a salaried member of the city government but by a physician who had merely the honorary position of a municipal councilor. The colleague in question has undeniably shown a good capacity for organization, but in consequence of an insufficient preparation has for a long time been unequal to the task of managing so great a community as our metropolis is bound to present. For many years the Berlin medical profession and the medical press, especially the *Deutsche medizinische Wochenschrift*, have demanded that the medical affairs in this city shall receive the same representation that is received by the building interests, the schools, etc., which means that they shall be cared for by a salaried officer specially trained' for this important position, who shall give his attention exclusively to the care of the public health. This demand has heretofore been refused by the city government which has been under the direction of a mayor who showed little comprehension of medical needs. Some recent occurrences which indicated the insufficiency of the organization, but especially the example of our neighboring city, Charlottenburg, which has established a municipal health officer, appears to have secured the fulfilment of the wishes of the Berlin medical profession. The commission on municipal hospitals, a few days ago, made the proposal to appoint a salaried municipal health officer with the salary of a technical member of the city government, inasmuch as the duties imposed on the city in the field of public health and the tasks voluntarily assumed in this relation have lately reached such extent and importance that it seems necessary, in addition to the member who is filling the honorary office, to secure another of distinguished ability in all such questions.

Antivaccination Movement

Ever since the introduction of compulsory vaccination its opponents have each year endeavored to have the law repealed, and they seek to gain the favor of the government, the parliament and the public for their efforts by collecting and displaying the actually observed injuries due to vaccination and also by appeals to the imaginary horrors of vaccination. Repeatedly the government has seen fit to appoint commissions before which the antivaccinationists, to whom also some physicians belong—were given opportunity to make their complaints, and regularly the result of these conferences has been that the provisions for vaccination have been improved but the provisions of the vaccination law itself have been maintained. Lately the antivaccinationists have made a new attack and have induced two delegates of the center to make a motion that another commission be appointed to discuss a modification of the vaccination law. It is further demanded that a bill should be prepared in which it shall be provided that the present physical compulsion for carrying out vaccination be removed and that further a so-called conscience clause be introduced according to which any person shall be exempt from vaccination, if he declares before the appropriate official that he cannot reconcile the vaccination of the child with his conscience. It is clear that with the adoption of such a conscience clause, compulsory vaccination would be completely abrogated and that hundreds of thousands who are opposed to vaccination, from ignorance and superstition, would exempt their children from it. The experience gained with such a conscience clause in England, where it has existed since 1907, will, it is to be hoped, induce the Reichstag to refuse the proposal of the antivaccinationists. In England marked small-pox epidemics still occasionally develop which cause numbers of deaths. The high small-pox morbidity and mortality which occur in countries in which compulsory vaccination is not required, should easily induce the government to withhold its consent to such a proposal even if it should be adopted by the Reichstag.

Imports and Exports of Drugs and Medicinal Chemicals

In 1909 the importation of manufactured remedies and other pharmaceutical products was 285 tons, valued at $290,000 (1,140,000 marks); in 1908, 326 tons at a value of $413,000 (1,653,000 marks). The exports, in 1909, were: 1,109 tons at a value of $1,994,000 (7,979,000 marks); in 1908: 936 tons at a value of $1,742,000 (6,968,000 marks). The best customers are Austria, Russia and the United States.

Chemical products for use in medicine were imported as follows: 1909: 60 tons valued at $178,000 (714,000 marks); 1908: 44 tons valued at $133,000 (532,000 marks). The exportations were: 1909: 915 tons valued at $3,223,000 (12,844,000 marks); 1908: 837 tons valued at $2,803,000 (11,212,000 marks).

Marriages

Oscar D. Whalin, M.D., to Mrs. Emma Maxwell, both of Chicago, recently.

Clayton McPeek, M.D., to Miss Mary Alice Biddle, both of Columbus, O., January 30.

Walter Benjamin Harvey, M.D., Pittsburg, to Miss Aurelia F. Bartlett of Lewisville, Ind., February 1.

David Henry Worthington, M.D., Aurora, Ill., to Miss Huldah Henrietta Bettcher, at Iowa City, Ia., January 17.

Deaths

Edward Gamaliel Janeway, of New York City, eminent internist and specialist on diseases of the mind, died at his summer home in Summit, N. J., February 10, aged 69. He was born near New Brunswick, N. J., and received his preliminary education at Rutgers College, from which he received the degree of B. A. in 1860, and M. A. in 1863. While still a student in the College of Physicians and Surgeons, he entered the United States Army as a medical cadet, serving in a hospital in Newark, N. J., in 1862 and 1863. In 1864 he was graduated from the College of Physicians and Surgeons. He was curator of the institution from 1868 to 1872, professor of pathology and practical anatomy from 1872 to 1879, and professor of diseases of the mind and nervous system from 1881 to 1886; professor of medicine in Bellevue Hospital Medical College from 1886 to 1892, and dean of the University and Bellevue Hospital Medical College since 1908.

He was a member of the American Medical Association, National Association for the Study and Prevention of Tuberculosis, Association of American Physicians, New York Academy of Medicine, and many other learned societies. From 1875 to 1882, he acted as commissioner of the Health Department of New York City. He was on the staff of Bellevue, Mount Sinai, Presbyterian, St. Vincent, J. Hood Wright, Woman's and French hospitals, and on the staff of the Hospital for the Ruptured and Crippled as consulting physician. He was given the degree of LL.D. by Rutgers College in 1898, by Columbia University in 1904, and by Princeton University in 1907. In 1876 Dr. Janeway served as president of the *New York Medical Journal* Association. By the death of Dr. Janeway, the medical profession loses one of its best internists and a pioneer in the practical crusade against tuberculosis.

Stanley Douglas Curran, M.D. Bellevue Hospital Medical College, 1896; instructor in physical diagnosis in the University and Bellevue Hospital Medical College; attending physician to the clinic of that institution and to the Harlem Dispensary; adjunct physician to Washington Heights Hospital; died at his home in New York City, February 4, from a gunshot wound of the head, self-inflicted, it is believed with suicidal intent, while despondent on account of ill health, aged 40.

John Calvin McClung, M.D. Western Reserve University, Cleveland, 1873; a member of the American Medical Association; formerly a member and president of the board of education, mayor, member of the council, and health officer of Leipsic, O.; local surgeon for the Cincinnati, Hamilton and Dayton; New York, Chicago, and St. Louis, and D. T. and I. railways; died at his home, February 3, from cerebral hemorrhage, following an attack of influenza, aged 68.

Aristides Monteiro, M.D. Medical College of Virginia, Richmond, 1850; Jefferson Medical College, 1854; formerly physician in charge of the male department of the Eastern State Hospital, Williamsburg, Va.; surgeon of the Tenth Virginia Cavalry and later surgeon to Col. Mosby's command in the Confederate service during the Civil War; afterward editor of a weekly newspaper in Manchester; died at his home in Richmond, January 27, aged 82.

Charles Chesterfield Nicola, M.D. University of Michigan, Ann Arbor, 1897; a member of the American Medical Association; for several years a staff physician of the Battle Creek Sanitarium; superintendent of the New England Sanitarium, Attleboro, Mass.; while en route to New York from Bermuda where he had gone on account of his health, disappeared from the steamer *Oceana*, February 7, and is supposed to have been drowned, aged 44.

Charles Edwin Wood, M.D. University of Michigan, Ann Arbor, 1907; who entered the U. S. Public Health and Marine-Hospital Service as assistant surgeon in 1908, and was assigned to duty on the U. S. R. C. *Seneca* but resigned from the service in 1910; a member of the American Medical Association; physician to the Brooklyn Rapid Transit Employees' Benefit Association; died in the Brooklyn Hospital, February 1, from Ludwig's angina, aged 29.

Giles Bertram Allen, M.D. University of Michigan, Ann Arbor, 1867; a member of the Michigan State Medical Society; a veteran of the Civil War; formerly a member of the legislature; probate judge of Eaton County for six years, and a member of the school board of Charlotte for fifteen years, and for several years a member of the local pension board; died at his home, February 5, from heart disease, aged 67.

Jacob Coble, M.D. Medical College of Indiana, Indianapolis, 1885; a member of the Indiana State Medical Association; a veteran of the Civil War; for more that forty years a practitioner of Spencer, Ind.; local surgeon for the Pennsylvania System; a member of the district board of pension examiners; died at his home, February 4, from heart disease, aged 66.

Joseph Frederick Sommerhoff, M.D. Bellevue Hospital Medical College, 1894; for ten years chairman of the examining board of the New Jersey College of Pharmacy; and at one time professor of hygiene in that institution; for many years a practitioner of Newark; died at the home of his sister in Bloomfield, N. J., January 25, from locomotor ataxia, aged 45.

J. Elmer Bailey, M.D. *Kentucky University, Louisville, 1904;* formerly local surgeon at Huttig, Ark., for the Eldorado and Bostrop, Farmerville and Southern, and Little Rock and Monroe railroads; a member of the Union County Board of Health; died at his home in Strong, Ark., January 12, from typhoid fever, aged 39.

Reynaldo Dorsey Mackin, M.D. Medical College of Ohio, Cincinnati, 1887; a member of the American Medical Association; a member of the legislature of West Virginia in 1907 and 1908; local surgeon at Grafton for the Baltimore and Ohio Railroad; died at his home, January 31, from nephritis, aged 46.

John Wesley Bickford, M.D. University of Buffalo, N. Y., 1881; a member of the American Medical Association; formerly coroner of Niagara County and city physician of Lockport, N. Y.; jail physician since 1908; died at his home in Lockport, January 31, from cerebral hemorrhage, aged 62.

John Grimes Keller, M.D. Medical College of Georgia, Augusta, 1884; for two years quarantine officer of Savannah; later port surgeon and county physician; in 1902 and 1904 and 1910 coroner of Chatham County; died at his home in Savannah, January 26, from cerebral hemorrhage, aged 48.

Adolph Rosenthal, M.D. University of Vienna, Austria, 1869; for eight years a surgeon in the Austrian service; of Uniontown, Pa.; from 1882 to 1902, a practitioner of Chicago; died in Mount Sinai Hospital, New York City, January 12, two weeks after an operation for pyonephrosis, aged 65.

William Litchworth Birney, M.D. Missouri Medical College, St. Louis, 1879; a member of the Missouri State Medical Association; for half a century a practitioner of medicine, and for forty years a resident of Hydesburg, near Hannibal; died at his home, January 29, from pneumonia, aged 79.

James T. Estill, M.D. Missouri Medical College, St. Louis, 1879; surgeon for the Denver and Rio Grande Railroad at Colorado Springs, Colo.; died at his home in that city, while endeavoring to light a gas range, February 2, from the accidental inhalation of gas flames, aged 61.

Selden M. Payne, M.D. Eclectic Medical Institute, Cincinnati, 1846; assistant surgeon of the Ninety-Fourth Illinois Volunteer Infantry during the Civil War; died at his home in Lexington, Ill., January 18, from injuries received by a fall down stairs two weeks before, aged 91.

Alfred Elisha Hubbard, M.D. College of Physicians and Surgeons, New York City, 1892; of Brooklyn, N. Y.; for a year surgeon on steamers plying between Hamburg and New York; died in the Norwegian Hospital, Brooklyn, Dec. 26, 1910, from meningitis, aged 41.

Charles Albert Gaudet, M.D. Tulane University, New Orleans, 1869; a member of the American Medical Association; a Confederate veteran; at one time a member of the board of health of New Orleans; died at his home, February 1, from pneumonia, aged 63.

William L. Bowman (license, Nebraska, 1891); a pioneer practitioner and clergyman of northeastern Nebraska, where he had practiced for more than forty years; for one term judge of Stanton County; died at his home in Stanton, February 6, aged 86.

Stephen S. Stout (license, years of practice, Michigan, 1900); surgeon of volunteers during the Civil War; for more than forty years a practitioner of Cheshire; a member of the state legislature in 1899; died at his home, January 31, aged 81.

Platt Ellsworth Beach, M.D. Long Island College Hospital, Brooklyn, 1877; a member of the American Medical Association; died at his home in Seville, O., January 15, from septicemia, due to a splinter wound of the left thumb, aged 55.

John N. W. Crawford, M.D. Medical College of Ohio, Cincinnati, 1880; formerly of Portsmouth, O., but for the last ten years a resident of Geneva, Switzerland; died in Cairo, Egypt, Dec. 30, 1910, from pernicious anemia, aged 53.

Joseph Milligan Wallace, M.D. Columbus (O.) Medical College, 1879; a member of the Illinois State Medical Society, and one of the oldest practitioners of Mercer County; died at his home in Aledo, February 1, from pneumonia, aged 56.

Alfred Charles Denham, M.D. Miami Medical College, Cincinnati, 1867; for many years a practitioner of Somerset, Ky., and Cincinnati; died at the home of his daughter in the latter city, January 11, from cerebral hemorrhage, aged 81.

John M. Bradford, M.D. University of Pennsylvania, Philadelphia, 1884; at one time a member of the staff of the Episcopal Hospital, Philadelphia; died in his office in Kensington, Philadelphia, February 2, from nephritis, aged 52.

William R. Nugent, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1863; formerly chief surgeon of the Iowa Central Railroad at Oskaloosa, Ia.; died at his home in Chicago, February 3, from chronic nephritis, aged 78.

Carl William Rummel, M.D. Rush Medical College, 1899; a member of the Iowa State Medical Society; health officer and city physician of Webster City, Ia.; died at his home, January 31, from pneumonia, aged 37.

Charles W. Vroom, M.D. State University of Iowa College of Homeopathic Medicine, Iowa City, 1887; a member of the Iowa State Medical Society; died at his home in Whitten, Ia., January 9, from myocarditis, aged 61.

Fenwick Robertson, M.D. University of Maryland, 1854; assistant surgeon in the Confederate service during the Civil War; died at the Maryland Line Confederate Soldier's Home, Pikesville, Md., January 31, aged 81.

William Ely, M.D. Western Reserve University, Cleveland, 1881; a member of the Medical Society of the State of Pennsylvania; died at his home in Beaver Center, January 12, from cerebral hemorrhage, aged 62.

Thomas Zadoc Offutt, M.D. University of Pennsylvania, Philadelphia, 1856; surgeon in the Confederate service during the Civil War; died at his home in Granite, Md., January 30, from senile debility, aged 81.

Joseph L. Cook, M.D. Jefferson Medical College, 1858; formerly president of the Westmoreland County (Pa.) Medical Society, and coroner; died at his home in New Alexandria, January 19, aged 79.

Charles L. Morehouse, M.D. Eclectic Medical College of the City of New York, 1881; for sixty-four years a practitioner; died at his home in New York City, January 23, from pneumonia, aged 88.

Samuel Micajah Johnson, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1873; a veteran of the Civil War; died at his home in Carson, Ia., January 24, from cirrhosis of the liver, aged 70.

Joseph Gardner Moore, M.D. Baltimore Medical College, 1906; a member of the American Medical Association; died at his home in Philadelphia, Dec. 16, 1910, from typhoid fever, aged 33.

Clement Ritter, M.D. Jefferson Medical College, 1890; of Selma; a member of the Medical Association of the State of Alabama; died at an infirmary in Birmingham, January 11, aged 47.

George L. Hughes, M.D. Hahnemann Medical College, Chicago, 1891; died at his home in Chicago, February 9, after an operation for bladder disease, from heart disease, aged 72.

John P. Cook (license, years of practice, Texas, 1907); a Confederate veteran; for thirty-five years a practitioner; died at his home in Mexia, Tex., Oct. 1, 1910, from cholelithiasis, aged 66.

Edward Paulding, M.D. Bellevue Hospital Medical College, 1890; a physician of New York City; died at his home in Flushing, L. I., January 10, from cerebral hemorrhage, aged 48.

Henry J. Denham (license, Rhode Island, 1895); for more than a quarter of a century a practitioner of Providence; died at his office in that city, January 20, from heart disease.

John B. Baskerville, M.D. University of Pennsylvania, Philadelphia, 1869; of Dublin, Va.; a Confederate veteran; died at the home of his daughter in Dublin, January 17, aged 64.

Robert Swayne Prentiss, M.D. College of Physicians and Surgeons, New York City, 1870; died at his home in Long Island City, N. Y., January 28, from angina pectoris, aged 71.

Lemuel Leake Silverthorn (license, years of practice, Illinois, 1877); for fifty-four years a practitioner of Illinois; died at his home in Charleston, January 21, aged 79.

Samuel T. F. Kirkpatrick, M.D. Reform Medical College of Georgia, Macon, 1861; formerly of Franklin, Tenn.; died at his home in Nashville, January 26, aged 72.

Thomas Benjamin Haynes, M.D. Kentucky School of Medicine, Louisville, 1890; died at his home in Beaumont, Tex., January 27, from dysentery, aged 44.

Thomas Floyd Norvell (license, Illinois, 1878); for thirty-five years a practitioner of Illinois; died at his home in Peoria, January 24, from nephritis, aged 58.

William M. Rich (license, Kansas, 1901); for twenty-six years an eclectic practitioner of Clements; died at his home, January 27, from influenza, aged 81.

Alfred Stevens, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; died at his home in Iowa City, January 27, from cerebral hemorrhage, aged 71.

Isaac D. Johnson, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1852; died at his home in Kennett Square, Pa., January 30, aged 83.

James Polk Marshall (license, Arkansas, 1903); an eclectic practitioner of Caulksville, Ark.; died at his home, January 29, from heart disease, aged 65.

John A. Fitz-Gerald (license, Illinois, 1897); was found dead in his office in Chicago Heights, January 23, from valvular heart disease, aged 45.

Otto Albert Pfefferkorn, M.D. Boston University, 1910; died at his home in East Weymouth, Mass., January 28, from pneumonia, aged 24.

James R. Rowland, M.D. Texas Medical College, Galveston, 1875; died at his home in Mineola, Tex., Oct. 4, 1910, from cancer, aged 71.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE GLUTEN AND CARBOHYDRATE CONTENTS OF GLUTEN BREAD

At the Second International Congress for the Repression of Frauds, held in Paris, the proceedings of which are published by the Geneva White Cross Society, the question of the gluten and carbohydrate content of gluten bread was discussed. An abstract of this part of the society's proceedings, is given below, and the matter is further referred to editorially in this issue:

BREAD AND BAKERS' PRODUCTS

The following definition was proposed: "Gluten bread is bread made from a flour containing at least 60 per cent. gluten, this flour being obtained either by eliminating a part of the starch of the flour or by mixing a gluten flour with it."

Dr. Chevalier: The name gluten bread ought to be applied only to bread containing a maximum of 25 per cent. carbohydrates, starch, sugar or derivatives and 75 per cent. nitrogenous substances. According to Hewald, in fact, gluten bread ought to contain about 76 per cent of nitrogenous substances and 10 to 30 per cent. of carbohydrates. This means that in place of fixing a minimum of gluten or nitrogenous substances, one fixes a maximum of carbohydrates which is really more logical, for what the diabetic seeks is a food which is not a carbohydrate.

Pharmacien Principal Pairault: No doubt, but the question is very complicated.

The President: The definition of 60 per cent. of gluten is really the definition of the inventor of gluten bread, Bouchardt, who remarks that in his time a gluten bread was manufactured to which "legumine" was added, and which was sold under the name of "gluten and legumine bread."

M. Arpin: The definition is completed as follows: "In the above-mentioned breads the nitrogenous substances may be furnished by gluten, aleurone, casein, legumine, almonds, soya flour with oils removed, etc., but the presence or the association of these various substances ought to be specified." Consequently this would be an optional operation. That is another question which will come afterward. It is necessary first to complete the definition.

Dr. Chevalier: This quantity of gluten is not sufficient to justify the name of "gluten bread." Here are analyses published by M. Balland. He analyzed three gluten breads; they have the following compositions: The first two are very similar. They contain 36 per cent. nitrogenous substances; 1.25 and 1.76 per cent. of fat and 51.87 per cent. of starch for the first, and 52.92 per cent for the second. These are the commercial breads which exist at present. The third has the following composition:

Moisture	10.00 per cent.
Albuminoid nitrogenous substances	73.02 per cent.
Fat	3.45 per cent.
Starch	12.50 per cent.

It is evident that the first two breads cannot be considered gluten bread. There is nothing gained over a definition which is altogether therapeutic, and this is the point of view which I take. To give a patient gluten bread without any addition is not possible, but if you make bread with gluten and wheat flour you obtain too large a proportion of carbohydrates and therefore a bad bread. It is necessary to add either legumine or other nitrogenous substances containing a sufficiently large proportion of nitrogen to permit of the making of bread. From the therapeutic point of view, you ought to base the definition on the quantity of carbohydrates and not on the quantity of gluten.

Pharmacien Principal Pairault: Is it possible to manufacture bread with pure gluten? No! Then it must be admitted that there is a certain proportion of starch. What minimum proportion do you think possible from the practical point of view, from the bakers' point of view?

M. Arpin: Bread is made with pure gluten; I have seen it. But one needs to know if this bread can be easily masticated and digested by the diabetic.

Dr. Chevalier: [illegible] the practical point of view, I demand a maximum of 2[illegible] of carbohydrates in gluten bread.

The President: This is what Bouchardt says in his book: "In the manufacture of gluten bread, the most conscientious manufacturers put in 25 per cent. of wheat flour and 75 per cent. of moist gluten to obtain a product which is readily acceptable.

M. Heudebert (*manufacturer of health foods*): I, myself, manufacture a gluten bread for which a patent has been applied and for which I have obtained a German patent. You know, of course, that the German patent guarantees the character of the invention. I have succeeded in manufacturing a gluten bread without the addition of wheat flour but with the addition of a certain proportion of alimentary casein. This has permitted me to make a bread which contains only a very little starch (10 to 20 per cent.), and which is very agreeable to the taste.

Pharmacien Principal Pairault: Such a bread can not be called "gluten" because it contains something else.

M. Heudebert: When Professor Bouchardt wrote what the President read to us just now, the progress in this industry which has since been realized had not been made.

Dr. Chevalier: From the practical point of view, I demand that the amount of gluten be raised from 60 to 75 per cent. There are breads which contain 12.5 per cent. of starch, as I have shown you just now in the analysis which I read.

President: You know, gentlemen, that "Père Bouchardt," as he was called, was much interested in the question. He was a practical man. It seems to me that we might pay respect to his opinion when he tells us that gluten bread ought to contain 25 per cent. of wheat and 75 per cent. of gluten.

Dr. Chevalier: There has been progress since Bouchardt and we have not the right to make a work of Bouchardt which dates from 1880, the basis of a definition in 1909.

President: I merely gave the reference as information.

Pharmacien Principal Pairault: It is necessary to know if it may be admitted that gluten bread contains anything else but gluten and starch.

President: No, it ought to contain only gluten.

Dr. Chevalier: I propose that the maximum of 25 per cent. of carbohydrates and 75 per cent of gluten be accepted. You make patients pay very dear for gluten bread; they ought to get something for their money. In fancy breads, oatmeal breads, or breads made in the Vienna style, you have 62 per cent. of carbohydrates. You are going to have 40 per cent. in gluten bread. I think that the difference is not enough; 75 per cent. of gluten is necessary.

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Dr. Chevalier: Yes, subtracting carbohydrates. I will change the question if you wish; I say that 60 per cent. of gluten is not enough to justify the name of gluten bread.

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M. Heudebert: I call your attention to what will happen from the commercial point of view. *The public is ignorant of all these questions.* [Italics ours.—Ed.] A bread is called antidiabetic; if it is sold at 50 centimes (10 cents) it will be bought by preference because it is cheap, without regard to the fact whether it contains starch or not. The manufacturer who succeeds in manufacturing a bread which answers the therapeutic requirements of Bouchardt will not be able to sell it cheap, because it will be composed of expensive material. He will then be at a disadvantage, whereas in all justice he will have furnished the solution to the question. In my opinion, one might enlarge the scope and give all possible liberty on condition that the buyer shall know that in buying a bread, whether cheap or dear, he has a product which does or does not answer to what the doctor has prescribed for him, and that he shall get his money's worth. There are antidiabetic breads which contain sugar.

President: We are discussing gluten bread, not antidiabetic bread. You will consider that in the Section on Hygiene. I put the question: Do you think that we, who are only merchants, can fix the minimum of gluten that ought to be found in gluten bread? Is not 60 per cent. a little large, and if we say 75 per cent., shall we not err in the other direction? It is not only specialists who make gluten bread; all bakers make it. Are we not going to expose all bakers to the danger of being prosecuted to-morrow if we demand 75 per cent. of gluten, because they will not all be capable of making a bread with that proportion?

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Dr. Chevalier: I do not speak as a commercial man. I am a physician. I say "You wish to make a definition of gluten bread, taking as a basis something which does not exist for diabetics. What you ought to give as a definition for diabetics is the maximum quantity of carbohydrates which ought to be contained in the bread. Patients do not need gluten, they need bread which does not contain carbohydrates."

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Dr. Chevalier: Starch or sugar or dextrin all become sugar in the stomach.

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M. Arpin: Almost all the bakers sell gluten bread. We need to discuss and to define it.

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Dr. Chevalier: There are gluten breads that contain more moisture than hardtack. That depends on the manufacturer.

Pharmacien Principal Pairault: A bread which contains 60 per cent. of gluten cannot contain 40 per cent. of carbohydrates.

Dr. Chevalier: This proportion of 60 per cent. can be understood only as calculated on the dry product. That is why it is necessary to define exactly and not say "60 per cent. of gluten" without knowing whether it is dry gluten and dry bread.

Pharmacien Principal Pairault: Let us say simply "containing a maximum of 20 to 25 per cent. of starch cereals without any other addition."

Dr. Chevalier: That is just what I demand.

A Member: We shall be sending the question to the pharmaceutic section next.

President: It is really more a question of pharmacy than of bakery.

Another definition is proposed: "Only breads containing 25 per cent. of wheat starch calculated on the basis of dry material ought to be called gluten bread."

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Pharmacien Principal Pairault: It is an antidiabetic bread, not a gluten bread.

M. Arpin: Yes, it is, the rest being gluten.

Pharmacien Principal Pairault: We ought to add "and not less than 60 per cent. of gluten."

M. Heudebert: That would not injure any baker at all.

President: I believe that this solution is satisfactory to everybody.

M. Arpin: It seems to me that all interests are safeguarded, even those of patients.

President: I am going to put to the vote the following definition of gluten bread:

"Only breads containing a maximum of 25 per cent. of wheat starch and a minimum of 60 per cent. of gluten, calculated on the basis of the dry material, should be called gluten bread."

This definition put to the vote was adopted.

Association News

THE LOS ANGELES SESSION

A Preliminary Statement Concerning Hotels and Hotel Rates

The reports which are coming in indicate that attendance at the next session of the American Medical Association will be large, and that geographical distance will not materially interfere with the attendance. The hotel facilities are ample, and the halls and hotel head-quarters are compactly grouped in the down-town district; and unless the weather records of years are changed, the weather during that week should be exceptionally good. The summer climate of Los Angeles is in every way as pleasant as the winter season.

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RATES AT LOS ANGELES HOTELS

NAME OF HOTEL,	ONE PERSON		TWO PERSONS	
Plan,* and No. of Rooms	Without Bath	With Bath	Without Bath	With Bath
Alvarado, A., 100	$2.50 up	$4.50 up	....	$5.00 to $7.00
Alexandria, E., 700	2.00 to 3.00	3.00 to 5.00	$3.00 to $4.00	4.00 to 10.00
Angelus, E., 300	1.50 to 3.00	2.50 to 5.00	2.50 to 4.00	4.00 to 10.00
Astoria, E., 200	1.00	1.50	2.00	2.50
Broadway, E., 200	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Fremont, A., 100	2.50 up	5.00 up	3.50 up	6.00 up
Hampden Arms, E., 60	1.00	1.50 to 2.00	1.50	2.00 to 2.50
Hayward, E., 300	1.50 up	2.00 up	2.00 up	3.00 up
Hollenbeck, E., 500	1.00 up	1.50 up	2.00 up	3.00 up
Hollywood, A., 200	2.00 up	4.00 up	2.50 up	6.00 up
Ingraham, A., 100	2.50 up	4.00 up	3.50 up	5.00 up
King Edward, E., 150	1.00 up	1.50 up	1.50 to 3.00	2.00 to 3.00
Lankershim, E., 300	1.50 up	2.00 up	2.50 up	3.00 up
Leighton, A., 125	3.00 up	3.50 up	5.00 up	6.00 to 10.00
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Munn, E., 100	.75 to 1.00	1.00 to 1.50	1.25	1.50 to 2.00
Nadeau, E., 150	1.00 up	1.50 up	1.50 up	2.50 up
Natick, E., 160	.75 up	1.00 up	2.00 up	3.00 up
Occidental, E., 200	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Rosslyn, E., 285	.75 up	1.00 up	1.50 up	2.50 to 4.00
Snow, E., 100	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 3.50
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* A, American plan; E, European plan.

As regards entertainment: the nearness to the ocean beaches and to the foot hills, with the trip to Catalina Island, and the possibility of out-of-door entertainments, will make possible a variety of features not easily had in other sections of the country.

We wish that those who are thinking of attending the session would drop a postal card to the Committee on Arrangements, 240 Bradbury Building, Los Angeles, Cal., stating the

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE GLUTEN AND CARBOHYDRATE CONTENTS OF GLUTEN BREAD

At the Second International Congress for the Repression of Frauds, held in Paris, the proceedings of which are published by the Geneva White Cross Society, the question of the gluten and carbohydrate content of gluten bread was discussed. An abstract of this part of the society's proceedings, is given below, and the matter is further referred to editorially in this issue:

BREAD AND BAKERS' PRODUCTS

The following definition was proposed: "Gluten bread is bread made from a flour containing at least 60 per cent. gluten, this flour being obtained either by eliminating a part of the starch of the flour or by mixing a gluten flour with it."

Dr. Chevalier: The name gluten bread ought to be applied only to bread containing a maximum of 25 per cent. carbohydrates, starch, sugar or derivatives and 75 per cent. nitrogenous substances. According to Hewald, in fact, gluten bread ought to contain about 76 per cent of nitrogenous substances and 10 to 30 per cent. of carbohydrates. This means that in place of fixing a minimum of gluten or nitrogenous substances, one fixes a maximum of carbohydrates which is really more logical, for what the diabetic seeks is a food which is not a carbohydrate.

Pharmacien Principal Pairault: No doubt, but the question is very complicated.

The President: The definition of 60 per cent. of gluten is really the definition of the inventor of gluten bread, Bouchardt, who remarks that in his time a gluten bread was manufactured to which "legumine" was added, and which was sold under the name of "gluten and legumine bread."

M. Arpin: The definition is completed as follows: "In the above-mentioned breads the nitrogenous substances may be furnished by gluten, aleurone, casein, legumine, almonds, soya flour with oils removed, etc., but the presence or the association of these various substances ought to be specified." Consequently this would be an optional operation. That is another question which will come afterward. It is necessary first to complete the definition.

Dr. Chevalier: This quantity of gluten is not sufficient to justify the name of "gluten bread." Here are analyses published by M. Balland. He analyzed three gluten breads; they have the following compositions: The first two are very similar. They contain 36 per cent. nitrogenous substances; 1.25 and 1.76 per cent. of fat and 51.87 per cent. of starch for the first, and 52.92 per cent for the second. These are the commercial breads which exist at present. The third has the following composition:

Moisture	10.00 per cent.
Albuminoid nitrogenous substances	73.02 per cent.
Fat	3.45 per cent.
Starch	12.50 per cent.

It is evident that the first two breads cannot be considered gluten bread. There is nothing gained over a definition which is altogether therapeutic, and this is the point of view which I take. To give a patient gluten bread without any addition is not possible, but if you make bread with gluten and wheat flour you obtain too large a proportion of carbohydrates and therefore a bad bread. It is necessary to add either legumine or [illegible] substances containing a sufficiently large [illegible] to permit of the making of bread. [illegible] point of view, you ought to base the definition on the quantity of carbohydrates and not on the quantity of gluten.

Pharmacien Principal Pairault: Is it possible to manufacture bread with pure gluten? No! Then it must be admitted that there is a certain proportion of starch. What minimum proportion do you think possible from the practical point of view, from the bakers' point of view?

M. Arpin: Bread is made with pure gluten; I have seen it. But one needs to know if this bread can be easily masticated and digested by the diabetic.

Dr. Chevalier: From the practical point of view, I demand a maximum of 25 per cent of carbohydrates in gluten bread.

The President: This is what Bouchardt says in his book: "In the manufacture of gluten bread, the most conscientious manufacturers put in 25 per cent. of wheat flour and 75 per cent. of moist gluten to obtain a product which is readily acceptable.

M. Heudebert (manufacturer of health foods): I, myself, manufacture a gluten bread for which a patent has been applied and for which I have obtained a German patent. You know, of course, that the German patent guarantees the character of the invention. I have succeeded in manufacturing a gluten bread without the addition of wheat flour but with the addition of a certain proportion of alimentary casein. This has permitted me to make a bread which contains only a very little starch (10 to 20 per cent.), and which is very agreeable to the taste.

Pharmacien Principal Pairault: Such a bread can not be called "gluten" because it contains something else.

M. Heudebert: When Professor Bouchardt wrote what the President read to us just now, the progress in this industry which has since been realized had not been made.

Dr. Chevalier: From the practical point of view, I demand that the amount of gluten be raised from 60 to 75 per cent. There are breads which contain 12.5 per cent. of starch, as I have shown you just now in the analysis which I read.

President: You know, gentlemen, that "Père Bouchardt," as he was called, was much interested in the question. He was a practical man. It seems to me that we might pay respect to his opinion when he tells us that gluten bread ought to contain 25 per cent. of wheat and 75 per cent. of gluten.

Dr. Chevalier: There has been progress since Bouchardt and we have not the right to make a work of Bouchardt which dates from 1880, the basis of a definition in 1909.

President: I merely gave the reference as information.

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The undersigned will be glad to send further information on receipt of request.

H. Bert Ellis, Chairman,
George H. Kress, Secretary.

Rates to Los Angeles

The Chairman of the Committee on Transportation wishes to state that he has received a great many letters from members inquiring about rates, routes, etc., to the Los Angeles session. He has been unable to answer them as yet for the reason that the railroads have not been able to agree on the rates. Notice has just been received that the western roads have made a rate of $62.50, round trip from Chicago to Los Angeles by any direct route, or by way of San Francisco. From St. Louis, Memphis and New Orleans the rate is $57.50; Missouri River Gateways (Omaha to Kansas City inclusive), $50.00; St. Paul and Minneapolis, $63.50. Dates of sale are June 5 and 6 and June 10 to 22, both inclusive. The final return limit is September 15. Additional rates will be published as soon as they have been announced by the railroads. Details of routes and the arbitrary amount to be added for the northern roads will also have to be announced later.

M. L. Harris, Chairman, Chicago,
Committee on Transportation and Place of Session.

Correspondence

Two Appendices in One Person

To the Editor:—In The Journal, January 21, Dr. W. G. Young writes of a case in which he found two appendices in one individual, each appendix being well-defined and well-developed.

Some years ago a patient was brought to me for operation for adhesions following an appendicitis operation. On opening the abdomen, I found an appendix about three inches long, containing two hard concretions, much to the surprise of another physician present, who stated that the year before he had stood by while the same patient was operated on in an acute attack, and had seen an appendix with three concretions removed. My explanation at the time was that probably the patient possessed an appendix six inches long originally, and the first operator had removed three inches with three concretions, the rest having escaped observation in the midst of acute inflammatory products. I do not know whether this was really the explanation, or whether the patient had two appendices, as the family physician still believes.

Robert T. Morris, New York.

A Theory of the Cause of Cancer

To the Editor:—In the quest for the cause of cancer, theory and speculation have run wild, but up to the present time we seem to be as far away from the goal as we were when the pathologist first began to unravel the almost hopeless tangle. Theories have been unnumbered, and among the more recent are those of the sturgeon's egg and the trout. Investigation has been directed to cancer in other kinds of fish. Maps have been prepared showing the relation of the so-called cancer areas to the natural distribution of trout.

Cancer does not seem to limit itself to those who dine on *hors d'ocuvres* and fish. It has occurred to me that possibly the commonest form of living animal cell which is ingested by human beings, and which might be the cause of new growth, is that of the fecundated hen's egg. The latter is practically unlimited in distribution, and, indeed, where it is not obtained, other varieties of immature ovular life are used in its stead; for instance, the egg of the common duck, the seagull, the ostrich and of many others, even of reptiles. To be sure, eggs are eaten, not always, but frequently, in the raw state as in egg-nog, beaten white of egg, and soft-boiled. In a lightly cooked egg, the ovum seems to resist coagulation more than the remainder of the egg.

We are told that all new growths are derived from one of the primitive layers, and in the fecundated egg we have all of these requirements—the endoderm, the mesoderm and the ectoderm. This living cell then, introduced into the human body and becoming attached to some abnormal part of the digestive apparatus, gastric, duodenal or intestinal ulcer for instance, begins its growth, and then by metastasis, its progress may become unlimited. In recent months laboratory work has been done in the artificial propagation of various cellular structures, notably that of the chicken embryo.

In The Journal (January 21, p. 198), Peyton Rous reports characteristic cancerous growths following the inoculation of small amounts of a watery filtrate of a chicken sarcoma, and also following inoculation of fluid supernatant after centrifugalization of a tumor emulsion.

If then, new growth may be transmitted, not necessarily by the intact living cell, the possible chance of transmission of new growth through the medium of its by-products becomes apparent.

Malcolm Seymour, M.D., Boston.

[Comment.—The theory that the germinal cells included in the hen's egg are the cause of cancer was proposed by G. Kelling in the *München. med. Wchnschr.*, 1904, li, No. 24. His communication was commented on editorially in The Journal, July 23, 1904, p. 269, and a second communication was made by him in the *München. med. Wchnschr.*, li, No. 43, 1904; abstr. in The Journal, Dec. 3, 1904, p. 1733. Kelling claimed to have produced malignant neoplasms by the inoculation of dogs with hens' eggs and also found that in human carcinoma of the stomach, a precipitin reaction for hen's-egg albumin could be obtained. This theory does not appear to have received any notice since that time. We have no known example of the successful transplantation or grafting of the cells of one animal species into the tissues or bodies of some other species; consequently it is rather far-fetched to assume that the living cells in the hen's egg might grow in the animal body.—Editor.]

Preservation of Rubber Bulbs

To the Editor:—Apropos of the note by Dr. Goodman, referring to the short life of rubber bulbs, in The Journal, Jan. 14, 1911, p. 113, and the letter on the same subject by Dr. Albert Robin, in The Journal, Feb. 4, 1911, p. 367, it occurs to me that it might be of general interest to note that the perishability of rubber bulbs, such as are used with sphygmomanometers, has been known for many years. Hill and Barnard, as early as 1897, employed a metal pump similar to that used for inflating bicycle tires on a sphygmomanometer devised by them, and reported it in the *Brit. Med. Jour.*, 1897, ii, 904.

Having encountered the same difficulty in my work with sphygmomanometers, I have had made pumps of two varieties which may now be obtained from instrument dealers at small cost. These pumps are small and are each fitted with a valve to prevent escape of pressure. The later model, which is smaller than the first, is also provided with a needle valve which permits the gradual release of pressure in the system. The first of these pumps has been in use for nearly two years, and from the number now extant, seem to be becoming increasingly popular.

Francis Ashley Faught, M.D., Philadelphia.

Differentiation of Chronic Nephritis and Neurasthenia.—Chronic nephritis with threatening uremia may sometimes present a group of symptoms in a neuropathic individual which might be mistaken for neurasthenia, e. g., headache, characterized by tightness and feeling of pressure, especially in the morning, giddiness, weariness and lassitude with inaptitude for mental or bodily work, diurnal somnolence, etc. An examination of the heart, the urine, the pulse and the retina will enable a diagnosis to be made.—F. W. Mott, in the *Practitioner.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DESCRIPTION OF SEPTIC TANK—HOW SOON AFTER CHILDBIRTH MAY CONCEPTION OCCUR?

To the Editor:—Kindly answer the following questions: 1. What is a septic tank? 2. How soon after the birth of a child may another conception take place? L., Ohio.

ANSWER.—1. A septic tank is a tank into which sewage is allowed to flow, there to remain for a certain time in order that solid matters may settle out and a certain amount of putrefaction occur from the action of the anarobic bacteria present in the sewage. Most of the benefit comes from the deposition of solid matter, which might otherwise clog filter beds. This solid matter is removed at intervals of some months. For fuller information see THE JOURNAL, Nov. 5, 1910, p. 1650, and Dec. 10, 1910, p. 2067.

2. Kroenig, in the *Zentralblatt für Gynäkologie*, 1893, page 445, describes a case of pregnancy in a secondi para who gave birth March 10, 1893, to her second child and July 4, 1892, to her first child. The first child was nursed ten days. A single coitus occurred four days after the birth of the first child, that is, on July 8. There was no further intercourse for three months. The second child, which was born 243 days after the fruitful coitus, was 52 cm. long and weighed nearly 8 pounds. This is the earliest recorded case of conception postpartum. It raises several interesting questions relating to the activities of the ovaries during pregnancy, the viability of spermatozoa in the lochia, the possibility of the nesting of the egg in the recently emptied uterus and the duration of pregnancy.

Weinberg, in the *Zeitschrift für Geburtshilfe und Gynäkologie*, vol. 1, page 7, in a paper on "The Effect of Nursing on Menstruation and Conception," has collected statistics which show that about 20 per cent. of nursing women and 80 per cent. of those who do not nurse menstruate within six weeks of labor. Of puerperæ who do not menstruate about one in one hundred become pregnant within six months and about six in ten of the puerperæ who menstruate become pregnant within the same period.

SILVER NITRATE AND OTHER COMMON GERMICIDES IN GONORRHEA

To the Editor:—Since reading the article on "Common Germicides" by Post and Nicoll, in THE JOURNAL, Nov. 5, 1910, I have often wondered why some of the more efficient germicides are not used clinically in the treatment of gonorrhea. I have not been able to find the information I want on the subject, nor have I been able to learn anything from a number of physicians with whom I have talked about the matter. Why can we not with advantage use tincture of green soap, alcohol or Senn's solution as an injection in gonorrhea? If we can, why has it not been done, and what is the proper way to use these agents? Why are argyrol and protargol used so extensively if silver nitrate is superior?
E. E. EVANS, M.D., Gary, Ind.

ANSWER.—Tincture of green soap and alcohol are both irritating to denuded epithelial surfaces; they cause hyperemia and increased weeping from the surfaces, and thus interfere with the formation of horny epithelium and healing. For these reasons, if for no other, they would hardly seem to be useful antiseptics in acute urethritis. The same reasons in less degree apply to Senn's iodin solution. As regards argyrol and protargol and silver nitrate: In the first place, of course, silver nitrate is fatherless and there is no one to tell every willing listener over and over again its wonderful qualities; in the second place, silver nitrate shares with alcohol the quality of being too irritating in efficient strength to be a satisfactory antiseptic for use in acute gonorrhea. In chronic gonorrhea, when properly used, it is unequaled by any of the newer silver preparations.

FINSEN LIGHT AND LUPUS VULGARIS

To the Editor:—Is the Finsen light much used in this country? What is the percentage of cures of lupus vulgaris by this method of treatment? Is lupus vulgaris more prevalent on the Continent of Europe and the British Isles than in the United States?
JOHN B. DONALDSON, Lorain, Ohio

ANSWER.—The Finsen light is now used very little in the United States; here and in Europe it has been largely replaced among dermatologists by the *x*-ray. The results in the Finsen Light Institute in Copenhagen for 456 patients treated up to Dec. 31, 1900, were as follows: In slight cases 83 per cent. of the patients were practically cured; in extensive cases 52 per cent. were practically cured; 130 patients were known to be well for five years. Lupus vulgaris is much more prevalent in continental Europe and in the British Isles than in the United States.

SURGERY ONE HUNDRED YEARS AGO

To the Editor:—I am informed that a history of surgery was published in THE JOURNAL some years ago and that it was afterward published in book form. If you have the book will you kindly send me a copy? If not, please inform me where I can obtain it. S. A. CLARK, South Bend, Ind.

ANSWER.—Perhaps the article you want is by Dr. George Fischer on "Surgery One Hundred Years Ago, a Historical Study," translated by Dr. Carl H. von Klein, Chicago. This work appeared in THE JOURNAL in 1897 in many issues, namely, from February 13 to August 14; also in the first part of 1898. It has not been published in any other form.

BLEPHAROSPASM A NASAL REFLEX

To the Editor:—Replying to the request of Dr. R. S. Lamb for information regarding "blepharospasm," I would refer him to the recent article on "Reflexes and Reflex Neuroses from the Upper Air Tract," by Dr. Bryant in the *Boston Medical and Surgical Journal*, Feb. 2, 1911.

Blepharospasm is usually a nasal reflex and the area involved is the tubercle of the septum and middle turbinal. In fact, this "*genital area*" of the nose is hyperesthetic and changes of blood-pressure induce the irritation which shows itself in the muscular movements. I have seen chronic symptoms, and, indeed, severe chorea, yield immediately to the removal of adenoids or to direct treatment of these areas within the nose; by direct I mean local applications under illumination. EDMUND D. SPEAR, M.D., Boston.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 11, 1911.

Gunckel, George I., D.S., sick leave of absence extended fourteen days.

Stone, Frank P., D.S., reported for duty at Presidio of Monterey, Cal.

Weed, Frank W., captain, reported for temporary duty at Madison Barracks; left Fort Totten, N. Y.

Trinder, John H., M.R.C., reported for temporary duty at Fort Totten, N. Y.

Lambie, John S., Jr.; Worthington, Joseph A.; Tasker, Arthur N.; Snyder, Howard M., and McKinney, Garfield L., first lieuts., ordered to report to Lieut.-Col. James D. Glennan, Medical Corps, president of examining board, Army General Hospital, San Francisco, for examination for promotion.

Foster, George B., Jr., lieut., relieved from duty at the Army Medical School, Washington, D. C., and ordered to Fort Leavenworth, Kan., for duty.

Bourke, James, captain, relieved from duty at Fort Leavenworth, Kan., and ordered to Fort Crockett, Texas, in time to arrive there about March 10, 1911.

Cowles, Calvin D., Jr., and Phillips, Hiram A., first lieuts., ordered to report to Lieut.-Col. Henry P. Birmingham, Medical Corps, president of the examining board, at the Army Medical Museum Building, Washington, D C., for examination for promotion.

Barber, John R.; Ashford, Mahlon; Huber, Edward G., and Hunt, William L., first lieuts., ordered to report to Major William E. Purviance, Medical Corps, president of the examining board, at Manila, P. I., for examination for promotion.

Schmitter, Ferdinand, captain, ordered to repair to this city for special duty in the laboratory at the Army Medical School for a period not to exceed seven days.

Moncrief, William H., captain, on arrival at San Francisco will proceed to Fort Riley, Kan., for duty.

Le Hardy, Julius C., M.R.C., directed to proceed from Manila, P. I., to San Francisco, March 15, instead of Feb. 15, 1911.

Bierbower, H. C., M.R.C., left Fort Robinson, Neb., en route to Fort Meade, S. Dak., for duty in field with 4th Cavalry.

Johnson, Howard H., captain, left Fort McDowell, Cal., on leave of absence to include Feb. 15, 1911.

Aydelotte, John T., lieut., left Fort Sam Houston, Texas, with troop F and H, 3d Cavalry, for duty in field at Marfa, Texas.

Fox, James S., lieut., ordered to duty with troop L, 3d Cavalry, in field at Samfordyce, Texas.

Austin, Thomas C.; Napier, Edward L., and Welles, Edward M., Jr., first lieuts., left Army General Hospital, San Francisco, for service in the field on Mexican border.

Kerr, James D., M.R.C., resignation accepted by the President, to take effect Feb. 7, 1911.

Johnson, Howard H., captain, leave of absence extended to and including Feb. 15, 1911.

Williams, Harry B., M.R.C., granted twenty-nine days' leave of absence.

Ireland, M. W., ordered to proceed to Chicago to attend the seventh annual conference on education and legislation of the American Medical Association to be held in that city March 1-3, 1911.

Pulver, Arthur L., M.R.C., granted leave of absence for one month and ten days.

Duncan, William A., captain, relieved from duty at Vancouver Barracks, Wash., and will repair to this city and report for duty at the Field Medical Supply Depot.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 11, 1911.

George C. M., asst.-surgeon, ordered to duty at the naval hospital, Navy Yard, New York.

Sheldon, L., Jr., asst.-surgeon, ordered to duty at the naval hospital, Norfolk, Va.

Randall, J. A., P. A. surgeon, ordered to the naval station, New Orleans.

Ely, C. F., P. A. surgeon, ordered to temporary duty at the naval hospital, Naval Home, Philadelphia.

Brown, H. L., P. A. surgeon, ordered to the navy recruiting station, Los Angeles.

Munger, C. B., P. A. surgeon, detached from the navy recruiting station, Los Angeles, and ordered to the *Yorktown.*

Lumsden, G. P., medical inspector, transferred to the retired list from Feb. 7, 1911.

Haynes, J. P., P. A. surgeon, detached from the naval station, New Orleans, and ordered to the Asiatic station.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 8, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to lower Potomac river on special temporary duty.

Bahrenburg, L P H., P. A. surgeon, granted one day's leave of absence, Jan. 8, 1911, under paragraph 191, Service Regulations. *Granted thirteen days' leave of absence from Jan. 21, 1911, on* account of sickness.

Blount, B. B., A. A. surgeon, granted thirty days' leave of absence from Feb. 1, 1911.

Salmon, T. W., P. A. surgeon, granted two months and ten days' leave of absence from Feb. 8, 1911.

Sinclair, A. N., A. A. surgeon, granted one month's leave of absence, with pay, and four months and fifteen days, without pay, *from April 1, 1911.*

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

Since the progress of state legislation was summarized in The Journal, February 4, a number of additional bills have been reported. These are classified by states. The further progress of these bills will be reported in The Journal from time to time.

ARKANSAS

A bill has been introduced to provide for the punishment, by fine or imprisonment, of all those other than regularly licensed physicians who "by any verbal statement, writing, print, or other method, offer or profess to cure or treat any injury, disease or deformity of any human being by any drug, nostrum, manipulation or other expedient." The administration of domestic remedies is exempt, as are also midwives.

CALIFORNIA

A bill has been introduced to authorize the selection, by the state medical society, of 150 members as experts in various lines of medical knowledge, from which list seventy-five shall be selected by the board, acting with the attorney general of the state. This list is to be posted in the office of every county clerk for reference in all litigation or criminal cases. A bill has been introduced to provide that children attending schools may, in place of a vaccination certificate, file either a statement from the parent or guardian that he is conscientiously opposed to vaccination and will not consent to the vaccination of the child, or a certificate from a licensed physician to the effect that vaccination would seriously endanger the life or health of the child.

COLORADO

A bill providing for a state board of medical examiners of nine members has been introduced, also a bill creating an osteopathic board of examiners.

ILLINOIS

The following bills have been introduced in the Illinois legislature:

A bill to enable boards of education in cities over 100,000 to establish and maintain classes and schools for dependent, neglected and delinquent children; a bill to establish and maintain a home for widows, orphans and other dependents of persons losing their lives in hazardous occupations; a bill to regulate the practice of optometry (H. B. 121); a bill to provide for the inspection, licensing and regulation of cold storage warehouses (H. B. 123); a bill to amend the delinquent children law (H. B. 124); a bill to regulate the practice of optometry (S. B. 140); a bill for the prevention of cruelty to animals (H. B. 28); a bill to authorize the sterilization of habitual criminals, idiots, feeble-minded, and imbeciles (H. B. 49); a bill to amend the vital statistics law (H. B. 53); a bill to prohibit the establishing and enforcing the tuberculin test for dairy animals by any city or town (H. B. 55); a bill to amend the law regarding the suppression and prevention of contagious diseases among domestic animals (H. B. 56); a bill to provide for the establishment, erection and maintenance of sanitariums for tuberculous patients (H. B. 57); a bill to provide for the creation of public recreation districts (H. B. 73); a bill to provide for the establishment of a state sanitarium for persons afflicted with tuberculosis (S. B. 5); a bill to amend the law regarding marriages and to require a physician's certificate of health for a license to marry (S. B. 32); a bill to make an appropriation for the visitation and instruction of the adult blind (S. B. 74); a bill to forbid the issuing of policies insuring against accidental bodily injuries (S. B. 84).

The optometry bills introduced in the house and senate are similar to those previously introduced in Illinois and other states. The bill regulating the sterilization of habitual criminals and imbeciles is similar to the law adopted in Indiana and other states. Senate Bill 74, for the visitation and instruction of the adult blind, has been introduced at the request of the Chicago Women's Club. This bill would appropriate $20,000 for the use of the board of administration and provide for the visitation of the adult blind in their homes for the purpose of instructing them in industrial pursuits and helping to make them self-supporting.

INDIANA

The bill introduced by Senator McCarthy, providing for the medical inspection of school children, passed the senate by a vote of forty to one. The following bills have passed the house: H. B. 57 for the prevention of ophthalmia neonatorum; S. B. 57 to establish a Pasteur Institute.

The following bills have been introduced: A bill to amend the present medical practice act, introduced by Senator Stotsonburg, would give all graduates of approved medical colleges the right to practice without examination. The Board of Medical Registration, as well as the physicians of the state, is strenuously opposing this bill. A bill to amend the law regarding the operation of hospitals; a bill to require the medical inspection of all male applicants for a license to marry; a bill for the prevention of the transmission of venereal diseases, and a bill to regulate the sanitation and ventilation of steam and traction passenger cars and depots.

IOWA

Beside the osteopathic bill and the bill to create a health commission, which have previously been commented on, the following bills have been introduced: a bill to provide for the proper sanitation of barber shops; a bill to regulate cancer hospitals and sanitariums; a bill to regulate itinerant venders; a bill to require undertakers to report the names of persons dying of tuberculosis and to require the disinfection of premises occupied by infected persons and a bill to require physicians and osteopaths to report all cases of tuberculosis to the secretary of the State Board of Health.

MISSOURI

A bill to regulate the manufacture and sale of oleomargerine, a bill to provide for the medical examination of public school children, a bill to provide for a board of eclectic medical examiners (H. B. 52), and an optometry bill have been introduced. The house committee has reported unfavorably on the optometry bill.

NEBRASKA

A school medical inspection bill, endorsed by the Omaha Women's Club, has been introduced.

NEW HAMPSHIRE

An optometry bill (H. B. 40) has been introduced.

NORTH CAROLINA

A bill to permit physicians to register and practice on presentation of their diplomas, without obtaining a license from the State Board of Examiners, was introduced but has been reported on unfavorably by the house committee.

NORTH DAKOTA

The medical practice act introduced in the house, to place practitioners of all schools under the supervision of a single board, has passed the house and is now in the senate. A bill to provide for a board of control for all state educational, penal and charitable institutions has been introduced in the house.

OHIO

A bill to repeal the vaccination law, a bill to provide that no person suffering from tuberculosis shall be given a license to marry, and a bill to grant local boards of health the power to establish bureaus for the study of tuberculosis in their towns have been introduced.

OKLAHOMA

S. B. 70 would make all records of the State Board of Medical Examiners public records. S. B. 77 would amend the medical practice act, and S. B. 93 the State Board of Health act. S. B. 126 would preserve the purity of the waters of the state, including all streams and springs and all bodies of surface and impounded ground water, whether natural or artificial. Every municipality, private corporation, company, and individual supplying water to the public within the state would be required, within sixty days, to file with the secretary of the State Board of Health a certified copy of the plans of the water works and the source from which their water-supply is derived. All persons, corporations or municipalities supplying water for domestic purposes would have to secure a written permit from the State Board of Health.

OREGON

A bill to give the State Board of Health the powers of the state dairy and food commissioner has been indefinitely postponed. Bills to create a board for the examination of graduate nurses and to extend the powers of the State Board of Medical Examiners have been reported on favorably by the house.

TENNESSEE

A bill to incorporate laws regulating the practice of medicine, and making some amendments therein, has been introduced in both houses. This bill would provide that any person practicing or attempting to practice medicine under the name of any other person or firm would be guilty of a misdemeanor; would extend the term of members of the board from four to six years, and would make graduation from a medical college giving a four years' course a condition for license. A bill has been introduced to require a medical certificate as a condition for the issuing of marriage licenses.

UTAH

An amendment to the medical practice act has been introduced to make the attorney general an ex-officio member of the board and to make improper advertising and the performance of criminal abortions ground for revocation of licenses. An annual tax of $3.00 on all licensed physicians is also specified, the fund thus collected to be used by the State Board of Medical Examiners to prosecute violators of the law.

WASHINGTON

A bill to give the State Board of Health power to regulate traffic in oysters and other shell-fish has been introduced; a bill to amend the medical practice act, and a bill to provide for a commission to designate certain hospitals and surgeons in each locality who shall attend all injured persons and who shall be paid for their services from a fund furnished by the employer and employees. A bill to provide for a state tuberculosis sanitarium has been defeated. An amendment to the criminal abortion law has been introduced, to provide that women may testify without incriminating themselves.

WISCONSIN

An optometry bill has been introduced. Dr. C. A. Harper, the secretary of the State Board of Health, has introduced a bill to require the state health inspector to inspect hotels, jails, schoolhouses and public buildings, streets, alleys and other places; a bill to require cities to make adequate provision for the care of persons with advanced tuberculosis, and a bill for the prohibition of public drinking-cups in public buildings. An effort is being made to abolish the compulsory tuberculin test for cattle. A bill to provide for a more thorough system for the registration of deaths, a bill to prohibit the publication of the fact that a person has died of tuberculosis, and a bill to require a medical certificate before issuing a license to marry have also been introduced, as well as a bill to increase the tenure of office for health commissioners in cities, towns and villages, to four years.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Third Weekly Meeting

INFECTIONS OCCURRING IN SURGICAL DISEASES AND CONDITIONS
SYMPTOMS OF TOXEMIA, SEPTICEMIA AND PYEMIA

TOXEMIA, SAPREMIA: History of local infection. Onset, fever, pulse, chills, gastrointestinal symptoms, headache, prostration, collapse. Blood-examination. Urine. "Typhoid" cases.

SEPTICEMIA: Intensity of symptoms, similarity to toxemia. Variations in symptoms due to different organisms. Blood changes. Clinical types: 1. Following local infection, gunshot wound, puerperium, trauma, etc. May be mild or severe. 2. Cryptogenetic septicemia; no history of previous infection. May be acute, subacute or chronic; may terminate in pyemia. 3. Due to mixed infection.

PYEMIA: Secondary to septicemia and toxemia. Difference in character and intensity of general symptoms. Symptoms indicating localization of metastatic abscesses; involvement of lung, pleura, cardiovascular system, brain, kidney, joints, eye, etc. Blood-examination. Course of pyemia, terminations.

TREATMENT

SEPTICO-PYEMIA OF VON LEUBE.

PROPHYLACTIC: Asepsis and antisepsis in prevention of infection.

SURGICAL: Removal of focus of infection. Prevent reinfection. Drainage of secondary infections. Production of artificial abscess.

SERUM-THERAPY: Antitoxic serums; bactericidal serums; serums raising resisting power of body or rendering bacteria more susceptible to phagocytes.

GENERAL: Elimination. Stimulation, alcohol, strychnin, quinin. Symptomatic treatment. Rectal or subcutaneous saline injections. Credé's colloidal silver injections.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress Street.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

The Conference on Medical Education and Legislation

This joint conference will be held at Chicago, at the Congress Hotel—formerly the Annex—March 1, 2 and 3. On the first day will be held the Seventh Annual Conference of the Council on Medical Education at which, besides the reports of the chairman and secretary, will be the following addresses:

"Entrance Examinations," by Dr. Thomas S. Fiske, Secretary of the College Entrance Examination Board, New York City.

"Subjects Included in the 'Two Years of College Work' Required for Admission to Medical Colleges," by Dr. Charles R. Bardeen, Dean of the School of Medicine of the University of Wisconsin, Madison.

"A Five-Year Medical Course," by Dr. J. George Adami, Professor of Pathology, McGill University, Montreal.

"Equipment and Instruction of the Laboratory Years," by Dr. E. P. Lyon, Dean of St. Louis University School of Medicine, St. Louis, Mo.

"Equipment and Instruction of the Clinical Years," by Dr. George Blumer, Dean and Professor of Medicine of Yale Medical School, New Haven.

"The Educational Function of Hospitals," by Dr. Frank Billings, Dean of Rush Medical College, Chicago.

"Valuation of Credentials," by Dr. Frank B. Hiller, Secretary of the Missouri State Board of Health, Jefferson City.

"The State License Examination," by Dr. Horace G. Norton, Secretary of the New Jersey State Board of Medical Examiners, Trenton.

"Interstate Reciprocity," by Dr. W. T. Gott, Secretary of the Indiana Board of Medical Registration and Examination, Indianapolis

On Wednesday evening, March 1, a special session will be held at which the "State's Responsibility in Medical Education and Public Health Matters" will be discussed. The speakers for the evening and their topics are as follows:

"Standards and Authority"—George Edgar Vincent, Dean of the Faculties of Arts, Literature and Science of the University of Chicago, and President-Elect of the University of Minnesota.

"The Responsibility of State Universities in Public Health Matters"—William L. Bryan, President of Indiana University, Bloomington.

"Professional Education a Duty of the State"—Edmund J. James, President University of Illinois, Urbana, Ill.

A joint conference will be held on the second day to discuss medical practice acts. The following addresses will be given:

"The Importance of the Regulation of Medicine in the Administration of State and Municipal Governments"—Edward J. Brundage, Corporation Counsel, City of Chicago.

"The Attitude of the Judiciary in the Enforcement of Medical Practice Acts"—Judge Jesse A. Baldwin, Appellate Court, Chicago.

"Considerations Which Should Influence Appointments on State Examining Boards"—Hon. A. O. Eberhart, Governor of Minnesota.

"What Should Be the Attitude of the State Toward the Practice of Medicine?"—Dr. M. L. Harris, Chicago.

"Regulation of the Practice of Medicine for the Public Good"—Charles R. Henderson, Professor of Sociology, University of Chicago.

"The Administration of Medical Practice Acts."
  (a) "The Administrative Duties of the State Board of Medical Examiners"—Dr. A. B. Brown, Secretary of the State Board of Medical Examiners, Louisiana.
  (b) "Medical Prosecutions and Revocation of Licenses"—A. C. Umbreit, Attorney for the Wisconsin State Board of Medical Examiners, Milwaukee.
  (c) "The Defense of Medical Practice Acts in the Courts"—James N. Wilkerson, Attorney for the Texas State Board of Medical Examiners, Fort Worth.
  (d) "Financing of State Board Work"—Dr. Herbert Harlan, President Maryland State Board of Medical Examiners, Baltimore.

On the third day the Seventh Annual Conference on Medical Legislation will be held. Representatives and members of the National Legislative Council will present reports from the various states regarding the legislative situation in each. Separate reports will be presented by the committees on Carroll memorial, medical expert testimony, optometry, model medical practice, etc. Dr. Henry M. Bracken, secretary of the Minnesota State Board of Health will speak on "The Needs of Public Health Legislation." Dr. Cressy L. Wilbur, chairman, statistician of the Division of Vital Statistics of the Federal Census will speak on "The Progress of Vital Statistic Legislation." Legislative problems will be discussed and plans for the coming year will be outlined.

California December Report

Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners of the State of California, reports the written examination held at Los Angeles, December 6-9, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75, and not less than 60 in any one branch. The total number of candidates examined was 95, of whom 60 passed, including 15 osteopaths, and 35 failed, including 13 osteopaths. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Arkansas	(1908)	75.5
University of California	(1910)	83.2
University of Southern California (1906) 75.2; (1909) 87.1, 88; (1910) 84.4.		
College of P. & S., San Francisco	(1907)	80.6
[illegible] ollege	(1910)	78.3
[illegible]	(1901)	78.7
[illegible] ity	(1910)	77.5
[illegible] ical School	(1904)	80.6
[illegible] rgeons, Chicago (1897) 78.1; (1905) 83.6.		
[illegible] College...(1902) 76.9; (1909) 83.3		
Rush Medical College......(1900) 89; (1904) 83.2; (1909) 87.9		
Medical College of Indiana	(1903)	77.3
State University of Iowa, College of Medicine (1885) 80.1; (1909) 79.6.		
Harvard University Medical School	(1908)	80
Tufts College Medical School	(1903)	81.3
Detroit College of Medicine	(1901)	76.2
University of Michigan, Dept. of Med. and Surg., (1892) 75.7; (1897) 86.4; (1901) 87.4.		
Hamline University	(1907)	76.5
[illegible] College, Kansas City	(1905)	77.4
[illegible] ge	(1902)	80.9
[illegible], College of Physicians and Surgeons (1894) [illegible] 89.9.		
[illegible] llege and Hosp. for Women	(1892)	82.9
[illegible]	(1902)	77.4
[illegible]	(1903)	75 1
Jefferson Medical College	(1884)	86.4
Hahnemann Med. Coll. and Hosp., Philadelphia	(1909)	75.5
Pulte Medical College	(1891)	80.1
Starling Medical College	(1900)	82.5
Cleveland Medical College, Homeopathic*	(1896)	87
Cleveland Homeopathic Medical College	(1902)	81.9
McGill University, Montreal, Quebec	(1904)	75
FAILED		
Coll. of P. and S., Los Angeles....(1906) 67.7;	(1908)	71
Cooper Medical College	(1910)	69, 64.9
College of Physicians and Surgeons, San Francisco (1906) 66.7; (1909) 73.2; (1910) 73.4.		
George Washington University	(1906)	70.9
Hahnemann Medical College and Hospital, Chicago	(1876)	80.3
Rush Medical College..............(1883) 75;	(1902)	70.9
University of Louisville	(1892)	73.4
Kentucky School of Medicine	(1906)	66.1
Louisville Medical College	(1895)	79.1
Coll. of Phys. and Surg., Baltimore	(1888)	64.6
Syracuse University	(1893)	75.8
Medical College of Ohio	(1885)	79.9
Pulte Medical College	(1894)	56.5
Miami Medical College	(1908)	71.8
Western Reserv [illegible]	(1879)	49
Eclectic Medica [illegible]	(1885)	76.2
University of [illegible]	(1902)	71.7

* Joined Cleveland University of Medicine and Surgery to form Cleveland Homeopathic Medical College in 1898.

Nebraska November Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Nov. 8-10, 1910. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Nineteen candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Creighton Medical College	(1910)	76.9, 82.7, 83.5
University of Nebraska	(1910)	89.7

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1904)	Illinois
Northwestern University Medical School	(1900)	Illinois
Rush Medical College (1888) Iowa; (1909)	(1910)	Illinois
American Medical Missionary College	(1906)	Illinois
Hering Medical College, Chicago	(1908)	Kansas
State University of Iowa, Coll. of Med...(1904)	(1910)	Iowa
Keokuk Medical College	(1898)	Iowa
Kansas Medical College	(1905)	Kansas
Louisville Medical College	(1894)	Wisconsin
College of P. and S., Baltimore	(1905)	W. Virginia
University of Michigan, Homeopathic College	(1882)	Michigan
Kansas City Hahnemann Medical College	(1905)	Arkansas
Ensworth Medical College	(1893)	Missouri
University Medical College, Kansas City	(1900)	Kansas
Jefferson Medical College	(1903)	Kansas
University of Rome, Italy	(1906)	Kansas

Book Notices

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY OF HEAD AND NECK. For Students, Surgeons and Specialists. By Hubertus J. H. Hoeve, M.D., Professor of Anatomy in the Medical and Dental College of Drake University. Cloth. Price, $5. Pp. 598, with illustrations. H. J. H. Hoeve, Des Moines, Iowa, 1910.

In his preface the author says, "I came to the conclusion that the entire macroscopic anatomy for the dissecting-room and also for surgical purposes should be arranged in natural outline form, and consequently I have prepared this volume on the head and neck." The book contains 600 pages slightly smaller than those in Gray's "Anatomy," with the subject-matter arranged in typical outline form, with headings, subheadings and further divisions. As there is considerable descriptive text, and as the outline form is used in laying out the matter, the full space is occupied with this one region of the body. To put the "entire macroscopic anatomy" of a region such as has been selected into an outline, is a work that might appal one less hardy than the author. As to the real test of its merit the words of the author may be further quoted as follows: "To what extent I have failed in writing the much-talked-of and badly needed ideal dissector remains to be judged by my professional confrères."

The author is evidently an earnest advocate of the outline method with thoroughness in all its details. The extent to which this method expands the text is realized when we observe that two full pages are devoted to the omohyoid muscle and more than a page to the frontal artery and vein. Different casts of mind naturally vary the point of view, so that things are seen differently by different observers. So it is with outlines: while the frequent breaks in the description by the interpolation of headings, subheadings and other divisions disturbing consecutive reading are results naturally to be expected and willingly accepted in the usual synoptical treatment of a subject where the simple divisions amply suffice to suggest the rest of the matter under review, it becomes a matter about which there is much less likely to be a unanimity of opinion when besides this all the details are exhaustively filled in. Much that is valuable and difficult of access elsewhere is likely to remain hidden in the text on account of the tediousness of unraveling the outline.

The fifty-one half-tone illustrations are about equally divided between photographic reproductions and artists' sketches of original specimens. Although suggestive of interesting and instructive original specimens, the reproductions are not the best, and leave much to be desired. Thirty-nine of the illustrations are devoted to the brain, three to sections of the head, three to sections of the larynx and pharynx, three to sketches of the orbit, and one each to the mastoid region, the veins of the diploe, and the skull with relation to the ventricles of the brain. With due respect for the author's pride in presenting none but original illustrations, one cannot help noting the absence of the beautiful figures of dissected regions that are so characteristic of the usual works of this class, and which more than any other single feature serve to stimulate the student to neat and thorough work.

THE PHYSIOLOGY OF REPRODUCTION. By Francis H. A. Marshall, M.A., Fellow of Christ's College, Cambridge. With a Preface by Prof. E. A. Schäfer, F.R.S., and Contributions by William Cramer, Ph.D., and James Lochhead, M.D. Cloth. Price, $6. Pp. 706, with illustrations. New York: Longmans, Green & Co., 1910.

Marshall presents this subject in the most exhaustive treatise that has appeared for some time. The earlier chapter-heads in order are: "The Breeding Season," "The Estrous Cycle in the Mammalia," "The Changes that Occur in the Non-Pregnant Uterus During the Estrous Cycle," "Changes in the Ovary," "Spermatogenesis — Insemination," "Fertilization," "The Accessory Reproductive Organs," "The Biochemistry of the Sexual Organs," and "The Testicle and the Ovary as Organs of Internal Secretion." In this last-named chapter the author makes a most valuable contribution to the literature on the subject. He gives in detail the results of the experimental work of Brown-Séquard, Poehl, Zoth, Pregel, and Bouin and Ancel, Shattock and Seligmann, Boruttau, Ribbert, Carmichael and Marshall, Knauer, Halban, Morris, Glass, Dudley, Essen-Möller, Graefe, Flatau, Kleinhaus and Schenk, Dubreuil and Regaud, Lane-Claypon, Paton, Henderson, Soli, Fichera, Starling and many others. Summing up his fifty pages of review, Marshall says: "The fact that the testis is an organ of internal secretion seems now to be definitely proved. This secretion is probably formed throughout the entire reproductive period of an animal's life; but, in those animals which experience a periodic rut, it is no doubt at this season that the testicular hormone is produced in greatest abundance."

What the author said about the testes might with equal truth have been said about the ovaries. In fact, it may be taken as positively demonstrated that these glands through their internal secretion profoundly influence development throughout the reproductive period and especially during adolescence.

Other chapters in the book concern fetal nutrition and the changes in the maternal organism during pregnancy; the innervation of the female generative organs; lactation; fertility; the factors which determine sex. This last chapter, next to that on the internal secretion from the sex glands, will be of most interest to the practitioner, as Marshall devotes considerable space to the consideration of various theories with accumulated data and evidences pro and con.

The book is well illustrated; some of the illustrations are in colors, many of them new and all of them valuable.

While Marshall has covered ground frequently covered in the preliminary chapters of works on obstetrics or in the final chapters on physiologies, the survey is incomparably more complete than one will find in any of the works mentioned, and will be valued highly by those students of obstetrics who wish to familiarize themselves with the latest and best on this subject.

A MANUAL OF PHYSIOLOGY. With Practical Exercises. By G. N. Stewart, M.D., Professor of Experimental Medicine in Western Reserve University, Cleveland. Sixth Edition. Cloth. Price, $5 net. Pp. 1064, with 450 illustrations. New York: William Wood & Co., 1910.

The fact that this is the sixth edition is ample proof of the popularity of Stewart's "Physiology." And the fact that these six editions have appeared at intervals during fifteen years is proof of the book's worth; it has worn well. This edition is a little larger than the others, owing to the addition of new matter; but the volume is not too bulky to be held for comfortable reading.

Mention of the good qualities has been often made, and need not be here repeated; but one cannot refrain from commending the clear style that makes abstruse subjects, which easily become monotonously dull, plain and interesting. Sometimes an illustrative comparison strikes one as a little odd, such, for instance, as this concerning the heart: "Like a musical box devised to play a series of melodies in a fixed order, and from which a particular tune cannot be obtained till those preceding it have been run through, the heart in some way or other is arranged, in the presence of competing impulses from its extrinsic nerves, to play the tune of inhibition before the time of augmentation" (p. 146). Yet we would not have it changed, for the comparison is apt and the student will remember the fact because put in this striking way. There is a remarkably equable distribution of space allotted to different topics and an evenness of treatment that is too often missed in composite works by different writers. The details of experiments are plainly given. And there is a most admirable condensation without sacrifice of clearness and of needful detail which shows the hand of the investigator who at the same time can teach and explain. The author rarely permits himself to run into wearisome argument; there is almost nothing of the polemic. His own views on debatable questions are always definitely stated. Where no decision has as yet been reached this is frankly acknowledged. His judicial attitude is well brought out by his excellent discussion of the myogenic and neurogenic theories as to the heart-beat. While favoring the latter theory in many respects, he takes a neutral position, for on many of these points, he says, the proof is not yet convincing.

We wish that he had departed a little more from the original plan and had cited authorities a little more freely. Medical students would be incited often to consult originals if instead of being told that "it has been recently shown," they were given as well the author and reference. We realize the impossibility of loading up the pages with all the authorities consulted and the inadvisability, as well, of using such a mass of names; but a little breaking of the rule now and then, and the insertion of a bibliographic reference, especially when it concerns some classic article or some really worthy contribution, would make the work a still greater help to the student. As it is, this work is certainly one of the very best text-books on physiology for the undergraduate and a reliable reference-book for the practitioner.

Lehrbuch der Urologie, mit Einschluss der männlichen S[illegible]. Von Dr. Leopold Casper, Universitäts-[illegible] Paper. Price, 15 marks. Pp. 575, with 221 [illegible]: Urban and Schwarzenberg, 1910.

The first edition of Casper's well-known book has been translated into English. This, the second German edition, is an enlargement and improvement of the first edition.

The subject-matter is handled in two parts. In the general part is considered the anatomy, physiology and examination of the urogenital tract. The physical and chemical examination of the urine is given so briefly that the subjects could well have been omitted. Since the author has written a work on cystoscopy, it is but natural that he should treat that subject rather briefly here. The subject suffers, also, by being poorly illustrated. The chapter on urethroscopy would be more valuable if the illustrations were not so poor and if it included a consideration of the use of the Goldschmidt urethroscope. On the whole, the chapter on diseases of the urethra and penis is good; we must, however, differ from the author when he says that non-gonorrheic urethritis is very rare. We were surprised and disappointed to find no mention made of erosive or gangrenous balanitis, a disease which produces such fearful mutilations of the penis and which is surprisingly frequent when one is familiar with the clinical picture. The chapter on urethral stricture covers the subject satisfactorily and we are pleased to observe that the author condemns the operation of external urethrotomy except in selected cases.

Diseases of the bladder are covered fully, and lithotripsy is advised in preference to the more radical operation. Vaccine therapy in urology deserves rather more extensive consideration than it receives. The chapter on the kidneys would be improved by omitting the consideration of nephritis and enlarging on the subjects of nephrolithiasis and tumors. Since the author is a pioneer in the work, naturally a good deal of space is devoted to the functional diagnosis of renal affections. This should appeal especially to American surgeons, since this subject, until recently, has been somewhat neglected in this country.

The subject of tuberculosis of the genito-urinary system is well covered in the chapters devoted to the various organs. The author believes in the radical treatment of tuberculosis of the kidney. Probably the best chapter in the book is that on disease of the prostate, in which Young's operation for prostatectomy was given the preference.

Considering their frequency, the functional disturbances of the male sexual organs are considered somewhat too briefly.

Chronicles of Pharmacy. By A. C. Wootton. In two volumes. Vols. I and II. Cloth. Price, $6.50 net. Pp. 760, with illustrations. New York: The Macmillan Co., 1910.

These two volumes are filled with curious and interesting information, the result of an immense amount of painstaking labor. The history of pharmacy is traced from its mythical beginnings to the present time. Through a great part of this course it is almost identical with the history of medicine, although Wootton has paid special attention to the drugs mentioned by ancient writers. Following a chapter dealing with the myths of pharmacy, the author gives in succession what is known of pharmacy among the ancient Hebrews, Egyptians, Greeks and Romans. The story is traced through the Arabs to the middle ages, when the account becomes more definite and truly historical. An interesting chapter is the one devoted to the progress of pharmacy in Great Britain. Succeeding chapters deal with "Dogmas and Delusions," "Masters in Pharmacy," "Chemical Contributions," and other topics, such as "Poisons in History," "Noted Nostrums," etc.

The author has made an interesting and instructive book. His death before the publication of his work is deeply to be regretted. The volumes are attractively bound and illustrated by a considerable number of portraits and pictures of statues and other subjects related to pharmacy.

Cystoscopy as Adjuvant in Surgery. With an Atlas of Cystoscopic Views and Concomitant Text for Physicians and Students. By Staff-Surgeon Dr. O. Rumpel, Lecturer in Surgery at the University of Berlin. Only authorized English translation by P. W. Shedd, M.D., New York. Half leather. Price, $8.50. Pp. 131, with 107 illustrations. New York: Rebman Co., (1910).

The first fifty-nine pages of this book are devoted to the text, the subject being considered under "Congenital Anomalies," "Cystitis," "Tumors," "Hypertrophy of the Prostate," "Concretions and Foreign Bodies," and "Testing Renal Function." In the text are twenty-two illustrations. The text is rather brief and often simply explanatory of the plates which follow. The testing of renal function receives scant attention, and hence the chapter on that subject is quite unsatisfactory. Following the text are thirty-six plates in color, showing eighty-five views of various conditions found in the bladder. They are all, of course, cystoscopic views, and the outline and coloring are very good, but they are all pasted on the pages and at times without regard to "up" and "down" of the picture, so that they are often confusing in this particular. Opposite each plate is a description of the figures and frequently a short history of the case.

Hay Fever and Paroxysmal Sneezing (V[illegible] By Eugene S. Yonge, M.D., Physician to the [illegible] for Consumption and Diseases of the Throat. [illegible] Pp. 150, with illustrations. New York: William Wood & Co., 1910.

Under the title of "hay-fever" the author has described three separate conditions—hay-fever (hay-asthma), paroxysmal sneezing (vasomotor rhinitis) and idiopathic rhinorrhea (nasal hydrorrhea). The first he distinguishes by ascribing as its chief etiologic factor the pollen of plants: the second depends more largely on neuroses and pathologic conditions of the upper respiratory space: and the last he attributes to neurotic condition more largely, to chronic sinus diseases or to trauma. The constitutional states as predisposing factors overlap in the three conditions. The subject is treated historically and from the standpoint of the different theories and hypotheses. The frequent association of asthmatic symptoms is kept in view, but nothing is said about the theory of anaphylaxis as a factor. Not much that is new is advanced in the treatment. The work is an interesting review of the subject.

Diagnosis and Treatment of Diseases of Women. By Harry S. Crossen, M.D., Professor of Clinical Gynecology, Washington University. Second Edition. Cloth. Price, $6. Pp. 1025, with 744 illustrations. St. Louis: C. V. Mosby Co., 1910.

The second edition of this work has been considerably expanded in the text, and numerous original illustrations added, which further elucidate diagnostic methods. Among the subjects given added attention are pelvic inflammation and tubal pregnancy. The index has also been amplified, but laboratory methods, except in the instance of gonorrhea, are not included, a matter which was mentioned in our extended review of the first edition. Surgical treatment is still subordinated. The elaborate attention given to diagnosis, and to treatment other than surgical, makes this a good work for the student and general practitioner.

Die Faeces des Säuglings und des Kindes. Die Bedeutung und Technik ihrer Untersuchung. Von Dr. Adolf F. Hecht, Kinderarzt in Wien. Mit Einem Vorwort von Dr. Th. Escherich. Paper. Price, 8 marks. Pp. 186. Vienna: Urban & Schwarzenberg (American Agents, New York: Rebman Co.), 1910.

This volume is the result of seven years of careful observation and study of this important subject in Escherich's clinic in Vienna. The subject is treated exhaustively and the result is equally valuable as a book of reference for the pediatrician or the general practitioner, or as a guide to the investigator. The author is fortunately a clinician as well as a laboratory investigator. One can freely endorse Escherich's warm commendation of the book to any one who is interested in this increasingly important subject.

Differential-diagnostische Tabellen der inneren Krankheiten. Von J. Clemach, in Wien. Paper. Pp. 21. Price, 3 marks. Munich: J. F. Lehmans Verlag, 1910.

This little volume contains twenty-one tables in which the symptoms and physical findings of allied diseases are tabulated in parallel columns. It has the faults and merits inherent in all such treatises. The clinician finds the symptoms stated too arbitrarily and dogmatically to be of value. The student who must prepare for examination, however, will appreciate the condensed summaries and the convenient arrangement of the data.

Medicolegal

Liability for Professional Service, Board and Nursing for Wife at Hospital

The Second Appellate Division of the Supreme Court of New York in the case of Thrall Hospital vs. Cecelia T. Caren (124 N. Y. S., 1038) reverses a judgment rendered for the plaintiff, and grants a new trial. It says that the action was to recovery for board, nursing, etc., received by the defendant. It appeared that while her husband was sick in the hospital she was removed to it for an operation for appendicitis. Her attending physician made the arrangements for her admission to the hospital through a physician connected with the institution. She was too ill to make provision for herself, and did not. Indeed, her illness was so severe that the proposal to present a bill to her was postponed and the charges were not communicated to her until her departure, when she said she would send a check for them. Thereafter a bill for the amount was presented to her husband, then one was sent to her with a letter requesting payment, and this not receiving attention, a bill was later presented to the husband's estate. Thus the case was one where a woman, whose husband was in the hospital, and who was herself too ill to contract, was received by it pursuant to arrangements made by the physician in attendance cooperating with a physician connected with the hospital, and on discharge promised to send a check for the bill, which was presented to her husband and to his estate, and intermediate such two presentations to herself, without attention by her. She did not engage the physician, so far as appeared. She did not promise to pay before the service was rendered. Did the law imply a promise? The answer is:

The defendant seemed to have had a home. Her physician advised her that she should go to the hospital, and made the arrangement through a physician connected with the hospital. A physician's service is a necessity that should be furnished by the husband, and presumptively was in this case, either through himself, or her implied authority to call a physician to attend a member of the family. The physician so acting for the husband advised her to go to the hospital, and she went accordingly. So the professional service was necessarily rendered in the hospital, and for it the husband was primarily liable. The board and nursing were incidental to such service. It might be that the husband elsewhere supplied a home and sustenance for her; but the room, board and attendance at the hospital were for a different purpose and inseparable from her treatment. In this view the plaintiff, thoroughly informed, should have regarded the husband as its debtor, unless the defendant expressly engaged the service, and thereby became personally liable. But there was not the slightest evidence that she did or was able to do that. Indeed, the plaintiff carefully refrained from broaching the subject until the time of her departure, when the defendant promised to send a check. Such statement did not cast the obligation on her. A wife does not become the principal debtor, or surety for her husband's debt, by promising to send a check for it, even if her own check is indicated.

Duties of Carriers to Sick Passengers and When Not Liable for Unusual Pain

The Supreme Court of Georgia says, in Central of Georgia Railway Co. vs. Madden (69 S. E. R., 165), that it is not one of the ordinary undertakings of a carrier of passengers to furnish nurses or medical attention. This idea has been expressed by saying that the carrier does not conduct a hospital. If one who is sick, with knowledge of the fact, gets aboard a train, he cannot complain that he suffers pain because of such sickness, or that the ordinary and necessary motion of the train increases his pain, without negligence on the part of the carrier; or that he lacks medical attention or nursing, with which he has not provided himself, and which the carrier has not agreed to provide for him. Nevertheless, a carrier of passengers does not deal with the strong and well and the vigorous alone; and a condition may arise by reason of the sickness of a passenger on its trains which will create an emergency imposing on the carrier the duty of dealing with the passenger in accordance with the situation thus arising.

If it should be ascertained that a passenger was suffering with small-pox, the carrier not only might cause him to leave the train before arriving at the destination pointed out in his ticket, but, under its duty for the protection of its other passengers, it might become necessary to compel him to do so. So, also, if a passenger should have a ticket for a journey of 1,000 miles, and after he had been carried 100 miles it should be ascertained by the conductor of the train that such a passenger was in a dying condition, it could hardly be successfully urged that the agents of the carrier could wholly ignore this situation and allow the man to die, without opportunity for obtaining assistance or attention, merely because he had not reached the destination pointed out in his ticket. It will thus be seen that circumstances and emergencies may raise a duty on the part of the carrier to afford a passenger a reasonable opportunity to leave the train and to obtain assistance before reaching the destination originally intended.

So if a passenger on a railway train becomes ill in transit, and this is known to the servants of the carrier in charge of such train, or is so apparent that they are charged with knowledge of it, it is their duty to give him or her such care and protection beyond that demanded under ordinary circumstances as is reasonably practicable with the facilities at hand and consistent with the safe and proper conduct of the business and the safety and comfort of the other passengers.

More particularly, the court holds here that where a female plaintiff contended, and introduced evidence tending to prove, that she became ill while on board a passenger train, and that the carrier was negligent in failing, on request, to afford her opportunity to leave the train in order to procure assistance and medical attention, and in failing to assist her in leaving it after knowledge of her condition, but that she succeeded in getting off, though suffering extreme pain and about to be delivered of a child, it was not error to refuse to charge the jury that, if they believed she was able to leave the train without the assistance of the conductor, she would not be entitled to recover damages.

But it was error to charge that "the defendant would not in any event be responsible for such pain as she (the plaintiff) would have suffered on account of the birth of a child. For pains incident to childbirth, if no more, if not unusual pain, you should find for the defendant." That implied a necessary right to recover for unusual pain; but the mere fact that a woman under such circumstances may have suffered more than usual pain would not entitle her to recover damages. If there could be a recovery, it must be for that which resulted from a want of due care on the part of the carrier or its agents, while there may have been a premature delivery, and unusual pain, caused by the ordinary motion of the train, without negligence or liability on the part of the defendant.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb. 28.

NORTH CENTRAL SECTION OF THE AMERICAN UROLOGICAL ASSOCIATION

Meeting held in Chicago, Jan. 5, 1911

Dr. R. H. Herbst, President of the Chicago Urological Society, in the Chair

Position Drainage in Suprapubic Prostatectomy

Dr. Henry J. Scherck, St. Louis: The principal objection to the ordinary form of drainage, either siphon or suction, is that it does not completely empty the bladder of decomposed or septic urine, and allows it to become absorbed in a freshly wounded bladder and space of Retzius. The abdominal position does not allow the septic material to remain in contact with these surfaces, and this minimizes the chances of absorption.

DISCUSSION

Dr. L. W. Bremerman, Chicago: I can drain the bladder suprapubically or perineally by automatic interrupted siphonage. During the first twenty-four hours following suprapubic prostatectomy the bladder can be emptied every five minutes, keeping it dry and keeping the dressing on the abdomen practically dry and making the patient comfortable.

Dr. Gustav Kolischer, Chicago: The prone position was used in various conditions years ago, and in spite of it, many patients developed hypostatic pneumonia. The real dangers following suprapubic prostatectomy or any suprapubic operation are postoperative hemorrhage and infection around the bladder.

Dr. E. G. Mark, Kansas City: The things to look after following suprapubic operation of any kind are hemorrhage, infection or infiltration into the abdominal wall or perivesical tissues, and hypostatic pneumonia. I am convinced that position has a great deal to do with the development of hypostatic pneumonia.

Dr. R. B. F. Gradwohl, St. Louis: The method of drainage described by Dr. Scherck is admirable in respect to the prevention of hypostatic pneumonia.

Dr. Arthur Dean Bevan, Chicago: I take a tube about the size of the index finger, measuring it accurately, so that it will project ¾ of an inch into the bladder, then I take a fine catgut suture and introduce it into the suprapubic wound, stitching both above and below the tube. It almost invariably requires but a single suture above and a single suture below the tube. This suture passes through, first, the bladder wall, and second, takes a good bite of the tube and goes through the opposite wall, and is then tied. In the space between the bladder and symphysis we tuck in a small cigarette drain with iodoform gauze, projecting beyond the gutta percha.

Genital Tuberculosis

Dr. F. W. Robbins, Detroit: In only two of twenty cases of genital tuberculosis was it possible to trace a relationship between tuberculous epididymitis and a previous gonorrhea. In neither of these patients was the tubercle bacillus found, and the diagnosis of tuberculosis may well be questioned. Rarely does genital tuberculosis follow venereal disease. About 60 per cent. of cases of genital tuberculosis are a part of the general tuberculous infection. Occasionally the disease may be so located in the external genitals as to make radical operation wise, but more often the disease of the external organ is associated with that of the prostate and vesicles, even when the bladder and kidneys are healthy. It is seldom good practice to do the extensive operation recently described by Whiteside.

DISCUSSION

Dr. Hugh Cabot, Boston: I have never seen a case which occurred in such a way as to suggest that gonorrhea was the cause of the subsequent tuberculosis.

Dr. D. N. Eisendrath, Chicago: In two cases I saw there was a direct relation between gonorrhea and tuberculosis In both cases a preceding gonorrhea had seemingly furnished the ground for the localization of the tubercle bacillus. One patient had a greenish discharge containing gonococci, and enlargement of both epididymes. The other patient had an abscess which ruptured through the scrotum. Gonococci were found in the pus. I advised antigonorrheal treatment, and it was instituted for two months without benefit. We examined the pus discharge for tubercle bacilli and found a large number of them. The whole course lasted about a year. The patient died from uremia. Autopsy showed extensive tuberculosis, a mixed infection where we had removed the epididymis, and in the kidneys, also showing gonococci, tubercle bacilli in the kidneys, pus, and a stone in the kidney.

Dr. R. H. Herbst, Chicago: A man had a large nodule in the upper pole of the epididymis, the size of an English walnut, in the region of the external ring, and painful, two nodules in the prostate, had frequency of urination. He was put on tuberculin. The nodule at the external ring and the nodules in the prostate disappeared, as well as the frequency of urination, one week after treatment. He still has a small nodule in the upper pole of the epididymis. Tuberculin, if used properly, is valuable, and should be used in almost every case.

Dr. G. Frank Lydston, Chicago: It is not an easy matter to prove the association between gonorrheal infection and genital tuberculosis. A large majority of cases of genital tuberculosis have been preceded by gonorrhea. If it is true that gonorrheal infection reduces resistance and does not predispose to tuberculosis, then we have a rule that differs from all other rules with reference to tuberculosis. An individual with a lowering of the power of resistance in the mucosa, other things being equal, is particularly susceptible to infection by the tubercle bacillus. The chief argument against the relation of gonorrhea to tuberculosis of the urogenital tract was missed altogether by the opponents of that theory, and that is that infection, as a rule, is descending, coming from the kidney, and from the substance of the kidney rather than from the pelvis, excepting secondarily. Gonorrheal infection of the kidney is relatively exceptional, as contrasted with the sum total of cases of gonorrhea.

A Case of Air Embolus Occurring During Operation Under Air-Inflation Urethroscopy

Dr. Ernest G. Mark, Kansas City, Mo., read a paper with the above title. It was published in The Journal, Feb. 11, 1911, page 419.

Local Paresis of the Urinary Bladder

Dr. Gustav Kolischer and Dr. Harry Kraus, Chicago: Certain cases of paresis of the bladder are caused by edema of the bladder wall. This edema may be produced by gross mechanical interference with the circulation by the impaction of tumors, or by inflammatory changes in the adjacent organs. That the bladder is paretic is shown by the fact that catheterization alone does not lead to a satisfactory emptying of the bladder, but that outside pressure has to be resorted to in order to express all the urine. That the edema of the detrusor is the cause of the vesical paresis is proved (1) by the cystoscopic findings; (2) by the palpatory findings after the bladder was drained; (3) that there are no disturbances of the central nervous system to be found; (4) that this bladder paresis disappears without any special treatment after the factors that interfere with the circulation are removed.

The Caput Epididymis an Excretory Organ

Dr. William T. Belfield, Chicago: The head of the epididymis is a part of the middle kidney, which functionates as a kidney in frogs and fishes, but is superseded in man by the permanent kidney. The efferent tubules constituting the head of the epididymis are the convoluted tubules of this early kidney. That they are secretory organs is indicated by the motion exhibited on traversing these tubules by the previously motionless spermatozoa. Their excretory function is indicated by the infection of these tubules with various organisms derived from the blood, e. g., those of tuberculosis, syphilis, typhoid, and the colon bacilli. These infections may extend along the genital tract to the prostatic urethra. Until recently, all infections of the kidney were assumed to ascend from the bladder. It is now known that many infections of the bladder descend from the kidney. Similarly we have been accustomed to regard all infections of the genital duct as *ascending* from the deep urethra; but must realize that in certain cases these infections begin in the convoluted tubules (head) of the epididymis and *descend* to the vesicles and deep urethra, there being a complete analogy between the second kidney (caput epididymis) and its duct on the one hand, and the third (permanent) kidney and its duct on the other. Hence, to limit treatment of all genital duct infections to the prostate and vesicles is as irrational as to limit treatment of all urinary infections to the bladder.

Other papers read were "Diagnosis in Advanced Cases of Renal Tuberculosis," by Dr. H. Cabot, Boston; "Salvarsan in Syphilis," by Dr. C. Wagner, Chicago; "Operation Cystoscope," by Dr. W. N. Senn, Chicago.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

February 4

1 *Electrocardiograms and Their Significance. T. E. Satterthwaite, New York.
2 *Use of Electricity in Chronic Disorders of the Stomach. L. H. Levy, New Haven, Conn., and J. G. Wells, New York.
3 Direct Transfusion. F. D. Gray, New York.
4 *Percussion of the Kidneys. O. Lerch, New Orleans.
5 Keratitis Ex Acne Rosacea. W. B. Weidler, New York.
6 Recognition and Treatment of Gonorrheal Urethritis and Cystitis in Women. W. E. Dannreuther, New York.
7 Clinical Value of Blood-Pressure Studies. F. A. Faught, Philadelphia.

1. **Electrocardiograms.**—The Einthoven electrocardiographic machine is described by Satterthwaite. He says that the sensational statements which have appeared in the public journals as to the utility of the instrument must be received with much caution. The electrocardiogram does not as yet of itself distinguish uniformly functional from organic heart diseases; neither can the instrument dispense with the personal examination of the patient. Hence, a complete diagnosis cannot be made by the instrument when the patient and the physician are far apart. Strictly speaking, Einthoven has not inaugurated a new method; he has utilized the photographic method of Marey, and the string galvanometer of Ader, while the credit of the completed instrument is due to Edelmann. Einthoven has, however, given close study to the method with the perfected instrument, and he is, therefore, entitled, more than any other man, to have electrocardiography associated with his name. The instrument is capable of showing the time and force of action of ventricles and auricles; notes lack of transmission; and demonstrates ventricular and auricular extrasystoles more clearly than any other method. It is certainly useful in various forms of arhythmias, particularly when there is more or less complete auriculo-ventricular dissociation. At present, however, the initial cost of the Einthoven machine, and the expense connected with operating and maintaining it, will be a bar to its general use, except in the larger hospitals or research laboratories.

2. **Electricity in Chronic Disorders of the Stomach.**—Levy and Wells advocate the use of electricity in treatment of most chronic diseases of the stomach, which have not responded to the regular medicinal methods of treatment and diet.

4. **Percussion of the Kidneys.**—Lerch uses the drop stroke in percussion instead of the hammer stroke. He uses an ivory pleximeter and a hammer with rubber-covered head. By the drop stroke he eliminates the personal factor in percussion and gets more accurate results. He can map out accurately any of the internal organs by this method. The kidneys may be mapped out in the normal position and when displaced. The author has studied his method on the cadaver, and states that one may determine by it whether both kidneys are affected in Bright's disease, and the increase in bulk of the organs.

Boston Medical and Surgical Journal

February 2

8 *Reflexes in Surgical Diagnosis. R. T. Morris, New York.
9 Disturbances Dependent on Eye-Strain. E. M. Alger, New York.
10 *Reflexes and Reflex Neuroses from the Upper Air Tract. W. S. Bryant, New York.
11 *Reflex Disturbances Referable to the Ear. J. R. Page, New York.
12 What Is the Meaning of Reflex? E. D. Fisher, New York.
13 Reflex Symptoms and Disease of the Nervous System. W. M. Leszynsky, New York.
14 *Intravenous Use of Cocain. P. W. Harrison, Boston.
15 Surgical Treatment of Gonorrheal Epididymitis. G. G. Smith, Boston.
16 A New Tonsil Knife. O. A. Lothrop, Boston.

8. **Reflexes in Surgical Diagnosis.**—Morris claims that many cases of neuralgia, treated medically, belong distinctly in the surgical class. Lumbago, or neuralgia of the sciatic nerve, often is due to an enlarged prostate gland, distended seminal vesicles, pelvic adhesions and to septic or mechanical disturbance of the uterus and adnexa. Cases of trigeminal neuralgia are commonly treated on medical diagnosis alone, and patients often say that they have not even been questioned, by neurologists of standing, relative to peripheral irritations. Morris recently operated on a patient who had suffered intensely from trigeminal neuralgia, and who had been given alcohol injections by a most competent surgeon interested in that subject, but who had not examined the pelvis at all. So intense was the woman's suffering, that at the time of the last alcohol injection, she prepared a fatal dose of morphin in a glass of water to be taken just before her anesthesia. She wished to commit suicide but to avoid disgrace to the family by having it appear that she had died from the influence of the anesthetic. The reason why she did not take the dose was that at the last moment the anesthetist refused to allow her the glass of water. When she came under Morris' care, a little later, and a large ovarian cyst was removed, the neuralgia disappeared promptly, excepting for an occasional twinge of the supra-orbital nerve at times when the barometer is low. In this case the ovarian cyst was the precipitating factor in a patient, no doubt, predisposed to trigeminal neuralgia. In another case, a woman had suffered terribly from "neurology" as she put it. In this case, Morris excised a portion of the inferior dental nerve, giving relief for about a year. On the return of the neuralgia, he sent her to a competent ophthalmologist to determine if eyestrain could be a peripheral factor in the case. The neuralgia was apparently cured permanently by correction of eye muscle imbalance.

10. **Reflexes and Reflex Neuroses from the Upper Air Tract.**—Bryant shows that the reflexes and reflex neuroses emanating from the pharynx in number and significance are second only to those arising from the nose.

11. **Reflex Disturbances Referable to the Ear.**—A plug of impacted cerumen, says Page, has been known to produce, through its irritation of the external auditory canal, its interference with the pressure equilibrium of the middle ear, and, consequently, that of the labyrinth, nearly every known reflex disturbance, even suicidal mania.

14. **Intravenous Use of Cocain.**—The subject of experiment during the past three years, three times had local anesthesia produced with cocain—once of a finger, once for work on teeth, once because of a boil on the back of the neck. The analgesia produced at these times was not different in character or duration from that usually seen. There had been no other use of cocain or allied drugs. This experiment was performed as follows: Into one of the superficial veins of the back of the hand there were slowly introduced 5 grains of cocain in a 2 per cent. solution. The introduction of the solution was completed in about thirty minutes. Dizziness and palpitation made it seem wise to stop with this amount. Tests of the patient's condition were made at once and results were found to correspond in an incomplete way with those reported for animals. Cerebration was normal, except for a restless inability to keep the mind long on one subject. Motor power was unimpaired. There was marked analgesia everywhere. An incision ¾ of an inch long through the skin, well down into the fat, was made on the anterior surface of the lower leg. This incision could be felt; it caused a mere trifle of pain. Two or three small nerves in the fat were cut; each caused a slight twinge of pain. Apparently operative procedure might readily have been undertaken with only very moderate discomfort. Two hours later a similar central incision was made on the opposite side. The sensation of pain had by this time recovered much but not all of its normal intensity. It would seem evident, then, that however suited to animals this method may be, the relatively enormous dose necessary for even an imperfect result makes it impossible for human surgery. (This experiment is of peculiar value, since the experiment was performed by the writer on himself.)

New York Medical Journal

February 4

17 Salvarsan in Syphilis. S. Pollitzer, New York.
18 *Diet in Typhoid. C. E. Nammack, New York.
19 Measurement of Arterial Blood-Pressure in Man. G. Bachmann, Atlanta.
20 Treatment of Skin Diseases with Solid Carbon Dioxid Snow. E. Pisko, New York.
21 *A Case of American Relapsing Fever. W. Baetz, Ancon, Canal Zone, Panama.

22 Syringe for Local Anesthesia in Rectal Operations. J. F. Saphir, New York.
23 Avoidance of Mistakes in Diagnosis of Foot Troubles. M. Strunsky, New York.
24 Pneumocele of the Lacrimal Sac. E. M. Blake, New Haven, Conn.

18. **Diet in Typhoid.**—When milk disagrees, when there is abdominal distention, and when curds appear in the stools, Nammack's favorite formula is milk, 4 ounces; fresh cream, 1 ounce: lime water, 1 ounce. This is given every three hours, and is followed by a mixture of dilute hydrochloric acid, 10 minims in 1 dram of a reliable essence of pepsin. To this prescription, strychnin is added when required. Between each two portions of milk, albumin water, made by adding the white of 1 egg to 6 ounces of boiled water, is given. The patient is also solicited to drink plain water freely. If there is complete intolerance or aversion to milk, then buttermilk or kumyss or kefir can frequently be borne. There is no danger, in Nammack's opinion, in forcing this quantity of fluid through the cardiovascular apparatus and the kidneys, unless acute nephritis exists as a complication In that case it is both useless and injurious to attempt to drive this quantity of liquid through an inflamed and partly impermeable kidney filter. The quantity and quality of the daily urine output must be carefully studied, and attempts at flushing the kidneys postponed, until the mechanical obstacles to the flow of urine are removed. After the third week, Nammack usually allows crackers with butter, well-cooked rice, calves-foot jelly, and broth, and other solid foods when the evening temperature reaches normal. Of twenty-eight patients treated according to this plan, twenty-seven recovered; one died from ulcerative endocarditis; three patients recovered after severe intestinal hemorrhages, and in one small boy perforating appendicitis developed in the fourth week, but he recovered, after operation, performed within four hours after the onset of the appendicitis.

21. **American Relapsing Fever.**—This case occurred in the Panama Canal Zone and was typical in every respect.

Lancet-Clinic, Cincinnati

January 28

25 Recent Researches in Mental Medicine, Especially in the Etiology and Treatment of Dementia Præcox and General Paralysis. L. V. Briggs, Boston.
26 Differential Diagnosis of Cerebellar Tumors. D. I. Wolfstein, Cincinnati.
27 Salvarsan. A. O. Zwick, Cincinnati.

February 4

28 Clinical Statistics. I. S. Wile, New York.
29 A Simplified Method for Intravenous Administration of Salvarsan. M. L. Heiding [illegible]
30 *A Satisfactory Method of [illegible] Bladder. F. E. Fee, Cincinnati.

30. **Suprapubic Drainage of the Bladder.**—The apparatus used by Fee consists of a 1 or 2-gallon bottle and a 1-quart bottle, equipped in the following manner: The large bottle is to be filled with water, and must have two openings, one at the ordinary neck and one at the bottom, both closed with rubber stoppers, each containing a perforation for a small tube. The lower tube is connected with a short drainage tube, passing below to a waste jar, and on this tube near the bottle is placed a small screw clamp to regulate the outflow drop. Two inches below this is placed a glass bulb dropper of the same variety as used in the Murphy proctoclysis apparatus. This bulb conveniently shows the rapidity of the outflow drop. From the neck of the bottle a small drainage tube is connected with a 1-quart bottle, the neck of which is closed with a rubber stopper containing two openings, one of which is connected with the large bottle, and the second opening is connected directly with a tube leading to the patient. The tube should have two short observation glasses inserted, one near the bottle and the other near the patient. Fee prefers to have a large drainage tube, ½ inch in diameter, inserted into the bladder, and through this a No. 10 catheter is passed, directly connected with the drainage apparatus. The lower end of the large drainage tube should have several holes cut in its side to facilitate the passage of urine into it. The tube passing into the quart bottle should only extend down about 2 inches. The one passing to the large bottle should extend into the neck about 1 inch. This permits the urine to drop into a small bottle and not be aspirated into a larger one. If this apparatus is to work satisfactorily, the catheter and tubes should be cleansed as often as necessary, depending on the condition of the urine; and, should it be thick and flow slowly, frequent cleansing is necessary. When all the connections are properly made, and little or no air is allowed to enter the tubes, the discharge drop need not exceed 150 drops per minute, and the large bottle need not be filled with water but twice in twenty-four hours. Fee says that with the exception of a slight wetting of the dressings, caused by the presence of the gauze drainage, for the first two or three days, this apparatus will satisfactorily drain practically all the urine from the bladder and deposit it in the small bottle, from which it can be drawn every twelve hours, measured and examined.

Journal of the Indiana State Medical Association, Fort Wayne

January

31 Revolutionary Methods in Connection with Syphilis. F. R. Charlton, Indianapolis.
32 The Surgical Year. M. F. Porter, Fort Wayne.
33 The Year's Progress in Pediatrics. L. P. Drayer, Fort Wayne.
34 Advances in Bacteriology and Pathology During 1910. B. W. Rhamy, Fort Wayne.
35 The Year's Progress in Medicine. T. Potter, Indianapolis.
36 The Year's Work of the State Board of Health. J. N. Hurty, Indianapolis.

Journal of the American Public Health Association, Columbus, Ohio

January

37 *Work and Play C. O. Probst, Columbus, Ohio.
38 Interrelation of National Organizations Working in the Interest of Health. F. Almy, Buffalo, N. Y.
39 The Proper Correlation of Physicians, Engineers and Other Specialists in Public Health Work. W. T. Sedgwick, Boston.
40 Value of Terminal Disinfection. C. V. Chapin, Providence, R. I.
41 Importance of Birth Registration to Determine Infant Mortality. J. H. M. Knox, Baltimore.
42 Past Performances of the Laboratory Section with Some Suggestions for the Future. W. R. Stokes, Baltimore.
43 *Effect of Vacuum Desiccation on the Virus of Rabies, with Remarks on a New Method. D. L. Harris and L. F. Shackell, St. Louis.
44 *Carbo-Gasoline Method for Disinfection of Books. W. L. Beebe, Saint Cloud, Minn.

37. Abstracted in The Journal, Sept. 17, 1910, p. 1044.

43. **Effect of Vacuum Desiccation on the Virus of Rabies.**—The authors found that by using Shackell's method of desiccation, the essential feature of which is that the material is kept solidly frozen during the process of drying, brains and cords may be desiccated *in toto* without destruction of virulence. The time required for the complete extraction of water is from twenty-four to thirty-six hours. A number of brains have been so treated and the infectivity of all has been preserved. After the completion of desiccation, these brains were placed in an ordinary desiccating jar over sulphuric acid and left continually exposed to light at the ordinary room temperature. One brain has remained infective for four months. The only precaution taken was to guard against moisture. Material thus dried is like chalk and is easily pulverized. It is, however, very hygroscopic and, after a few hours' exposure to the air, becomes leathery and rapidly loses its infectivity.

44. **Carbo-Gasoline Method for the Disinfection of Books.**—The difficulties that prevent the disinfection of books seem to be numerous. If a gaseous disinfectant is used, it is very hard to have it penetrate all parts. Steam injures the book to some extent. An ideal method, therefore, would seem to be to use a liquid that would not be injurious and still kill all the pathogenic organisms that frequently infect them. Beebe found that gasoline does not injure books even after they are soaked in it for two or three hours if they are quickly dried. Gasoline has the advantage of dissolving fats and oils and, theoretically, it would appear that if a germicide were added it would act on bacteria in a dry and perhaps a wet medium. Several disinfectants which were soluble in gasoline were tried, but phenol was the only one that seemed to be efficient. In testing the efficiency of carbo-gasoline it was necessary to devise a special technic. A very volatile gasoline, which is termed 88 Baume or gas machine gasoline, was used. Liquefied phenol crystals were added to the gasoline in different amounts, and the disinfecting properties tested on several organisms. A 1 per cent. solution was sufficient to kill all non-spore producing organisms in less than five minutes. Some books were disinfected by this method after first infect-

ing them with several different organisms. In all cases 88 Baume gasoline, containing 2 per cent. phenol, was used. The books were opened at the pages where they were to be infected, put in the autoclave and sterilized at 15 lbs. steam pressure for fifteen minutes. They were then infected with *B. typhosus*, *B. coli communis* and *B. diphtheriæ*. They were left in carbo-gasoline for twenty minutes. One of the books was dried over night in a sterile chamber before cultures were made. In all, sixty-two inoculations were made, eighteen with *B. diphtheriæ*, nineteen with *B. typhosus*; eighteen with *B. coli communis* and seven with *Staphylococcus pyogenes aureus*, without growth in any case. Books that were treated by this method were not injured, unless the cover was lettered with an oil paint. In such cases, if care be taken not to touch the letters before the books are dried, no harm is done. This method has been tried on several different bindings, such as leather, cloth and paper, and in no case has the binding been affected. Gasoline of a lower specific gravity than 88 Baume can be used, but it takes longer for the gasoline to evaporate. If the odor of phenol and gasoline is offensive, oil of peppermint, wintergreen or cinnamon can be used as a deodorant. Beebe has found oil of peppermint, 3 parts; oil of wintergreen, 1 part, and oil of cinnamon, 1 part, efficient in disguising the odor of phenol.

Journal of the Kansas Medical Society, Kansas City

January

45 Pollution of Kansas Streams. J. L.
46 Stricture of the Urethra. S. G. Zink
47 Obstructed Nasal Respiration and , Topeka.
48 Catarrhal Pneumonia. W. G. Norman, Cherryvale.
49 The Medical School of the University of Kansas. M. T. Sudler, Lawrence.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

December

50 Tetanic Convulsions in Frogs Produced by Acid Fuchsin, and Their Relation to the Problem of Inhibition in the Central Nervous System. H. G. Barbour and J. J. Abel, Baltimore.
51 Toxicity of Martius Yellow and Some Other Anilin Dyes and the Entrance of Dyes into Cells. A. P. Mathews and E.
52 * aphylaxis: Reaction of Smooth Mus- endered Tolerant to Large Doses of Washington, D. C.
53 *Action of Ether on Anaerobic Tissue. A. P. Mathews, Chicago.
54 Pharmacologic Studies on the Phosphatids. Methods for the Study of Their Combinations with Drugs and Other Substances. W. Koch, Chicago.
55 Relation of the Phosphatids to the Sodium and Potassium of the Neuron. W. Koch and F. H. Pike, Chicago.
56 *Relation of the Phosphatids to Overton and Meyer's Theory of Narcosis. W. Koch and F. C. McLean, Chicago.
57 Relation of Brain Phosphatids to Tissue Metabolites. W. Koch and A. W. Williams, Chicago.
58 Function of the Brain Phosphatids in the Physiologic Action of Strychnin. W. Koch and H. T. Mostrom, Chicago.

52. **Physiologic Studies of Anaphylaxis.**—Schultz found that single intravenous or intraperitoneal injections of horse serum seem to have no effect on the normal irritability of intestinal muscle toward the same serum provided the muscle be tested within a period of one or two hours after the injection. If, after the first injection of foreign serum, a long enough interval elapse, intestinal muscle shows a supranormal degree of irritability toward the same serum. The time necessary to acquire this increased irritability is probably coincident with that required for the process known as sensitization in anaphylactic animals. Guinea-pigs may be rendered tolerant to large doses of foreign serum by injecting increasingly large doses of it, at intervals of two days, for a period of twenty to thirty days. The gross body reflexes and the cardiac and respiratory reactions differ markedly from those of a sensitized animal, but intestinal smooth muscle continues to show a supranormal irritability toward a serum similar to that of smooth muscle from a sensitized animal. The tolerance induced by repeated injections of foreign serum resembles tolerance acquired toward certain chemical substances familiar to pharmacologists. As to immunity, it seems impossible by repeated injections to initiate a condition of absolute immunity, since certain tissues not only remain irritable to the serum but acquire a supranormal irritability to it.

53. **Action of Ether on Anaerobic Animal Tissue.**—Mathews tested the action of ether on the nerve cord of the heart of the king crab, *Limulus*. The experiments consisted in separating the nerve cord from the posterior part of the heart, leaving it attached only to the front segment of the long, tubular heart. The hydrogen was generated by pure zinc and sulphuric acid and the gas was well washed in alkalin and acid permanganate, sodium hydrate and water. The replacement of air by hydrogen generally stimulated slightly both the rate and amplitude of the contractions. The contractions slowly diminished in the course of an hour in hydrogen from a rate of seventeen to a rate of about ten a minute. If air was then readmitted the rate usually fell still lower. Substitution of the ether-hydrogen mixture for hydrogen caused a short preliminary increase in the rate and amplitude of the contractions and increase in the tone of the heart-segment, provided the ganglion was in good condition and had not previously been anesthetized. This preliminary stimulation did not occur, or lasted only for two or three beats if the ganglion had been anesthetized once or twice before. Further action of the ether in all cases caused a cessation of contractions. When the ether was washed out with a stream of hydrogen, the ganglion was markedly stimulated on recovery. The ganglion generally recovered fully in the hydrogen. The recovery in the hydrogen was in most cases as prompt and complete as it apparently would have been in air; in a few cases, however, after being first for a considerable period in the hydrogen, the recovery from ether was very slow in the hydrogen, but rapid on changing the air. These results show, therefore, that the actions of ether on this facultative anaerobic tissue, while undergoing anaerobic respiration, is in all respects essentially the same as the action of ether on other aerobic nervous tissues, and as the action of ether on the same tissue in the presence of air, i. e., primary stimulation, followed by inhibition and after-stimulation on recovery.

56. **Relation of the Phosphatids to Narcosis.**—Koch and McLean doubt that there is any evidence that anesthetics or hypnotics produce changes in the state of aggregation of lecithin or kephalin, which are sufficiently consistent to account for such a general phenomenon as narcosis. They found some evidence, however, that chloroform as distinguished from pure ether has the power to form a combination with lecithin, a phenomenon which may be brought into relation with its slow elimination and consequent tendency to produce delayed poisoning.

Journal of the Oklahoma State Medical Association, Muskogee

January

59 *Prevention and Treatment of Septic Infections of the Extremities. E. H. Ochsner, Chicago.
60 Obstetric Surgery and Secondary Repair of Lacerated Perineum. J. M. Trigg, Shawnee.
61 Ophthalmia Neonatorum. M. K.
62 Cases of Bronchopneumonia and olten Lead Among the Dependent C. Puckett, Pryor.
63 The Modern Trend of Obstetrics. A. B. Leeds, Chickasha.
64 Bronchopneumonia. L. S. Willour, Atoka.

59. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1678.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

January

65 Predementia Præcox: The Hereditary and Constitutional Features of the Dementia Præcox Make-Up. S. E. Jelliffe, New York.
66 *Disturbance of Sensation in a Case of Syringomyelia. A. R. Allen, Philadelphia.

66. **Disturbance of Sensation in Syringomyelia.**—In the case cited by Allen, the pathologic process completely isolated the posterior columns from the rest of the spinal cord from the first cervical to the eleventh thoracic segments, inclusive. There was perfect preservation of tactile sensibility and loss of pain and temperature sensibility. There was very diagrammatically demonstrated the lower limit of the trigeminal area. The cavity formation in the gliomatous tissue was most marked on the right side. Allen says that the case demonstrates the following facts: (1) The pathway for tactile sensations lies in the posterior columns; (2) with total cutting off of all the afferent pathways of the spinal cord with the exception of the posterior columns tactile sensation is not in the least impaired; (3) the validity of Mann's hypothesis is not questioned by the findings of this case.

Journal of the Tennessee State Medical Association, Nashville

January

67 Lumbar Puncture; Its Technic, Indications and Therapeutic Uses. J. Overton, Nashville.
68 Tuberculin Treatment in Pulmonary Tuberculosis. W. Litterer, Nashville.
69 Failure to Report Communicable Disease a Criminal Disregard of Law. N. F. Raines, Raines.
70 Present Status of Electrotherapy. M. R. Farrar, Nashville.

Journal of Medical Research, Boston

January

71 *Immunity in Tuberculosis. G. B. Webb and W. W. Williams, Colorado Springs, Colo.
72 *Examination of the Feces of Forty Cattle for Tubercle Bacilli and Conclusions Therefrom. J. Reichel and E. S. Deubler, Philadelphia.
73 *The Volume Index of the Red Corpuscles. R. C. Larrabee, Boston.
74 *A Case of Osteitis Deformans. A. G. Ellis, Philadelphia.
75 *Experimental Chronic Nephritis with Exophthalmos in the Rabbit. O. W. H. Mitchell, Columbia, Mo.
76 *Histology of the So-Called Hypernephromata and the Embryology of the Nephridial and Adrenal Tissues. L. B. Wilson and B. C. Willis, Rochester, Minn.
77 *Erythrocytic Nuclei of Normal Human Blood. R. W. King, Las Animas, Colo.
78 Primary Tumor of Lymph Vessels and Typical Lymph-Adenoid Tissue. O. W. H. Mitchell, Columbia, Mo.
79 *Investigations on Pulmonary Tuberculosis. A. H. Caulfield, Gravenhurst, Canada.
80 *The Swamp Fever of Horses. J. L. Todd, Montreal, and S. B. Wolbach, Boston.

71. **Immunity in Tuberculosis.**—Webb and Williams report on an animal which was inoculated weekly for nine months with a tubercle culture, from which 150 bacilli had been found to infect a guinea-pig. The inoculations were all made subcutaneously around the region of the navel. Autopsy failed to show any evidence of tuberculosis. The authors believe, therefore, that it may safely be considered that a guinea-pig has received, without the production of tuberculosis, about 1,000 times a lethal quantity of living virulent tubercle bacilli.

72. **Examination of Cattle for Tubercle Bacilli.**—The microscopic examination of the feces or rectal scrapings of cattle for tubercle bacilli was found by Reichel and Deubler to be of no value in that many bacteria make their appearance in the feces or rectal scrapings with the morphology and staining characteristics of tubercle bacilli, which, however, fail to prove themselves as such. Of the forty cattle included in the examination, nine (22.5 per cent.) were found to be throwing off virulent tubercle bacilli in the feces or rectal scrapings. Of these nine cattle, the tubercle bacilli were found virulent for guinea-pigs, and in eight of the nine the tubercle bacilli were virulent for rabbits. The authors believe that the successful demonstration of tubercle bacilli in the feces or rectal scrapings of cattle is either proof that extensive or "open" lesions of tuberculosis exist, or an indication that tubercle bacilli ingested are passing through the length of the alimentary canal of the animal under examination. Cattle, with "open" lesions of tuberculosis, and throwing off tubercle bacilli in the feces or rectal scrapings, as a rule show physical symptoms of the disease. Cattle showing physical symptoms of tuberculosis are the most active disseminators of the disease, because of the probable existence of "open" lesions, and the likelihood that tubercle bacilli are thrown off in the excreta. Since they show physical symptoms they may be detected in a herd by a consideration of the history, careful observation and a thorough examination of each animal. Tuberculin-reacting cattle do not necessarily throw off tubercle bacilli in the feces until the development of "open" lesions of tuberculosis, in which event the condition may be detected by a consideration of the history, careful observation and a complete physical examination.

73. **Volume Index of Red Corpuscles.**—Larrabee believes that the method of estimating the volume index by spontaneous sedimentation, while perhaps less accurate than the centrifugal method, is good enough for clinical uses. Normally, the corpuscles settle to about 50 per cent. of their total volume, where their number per cubic millimeter is 5,000,000. A volume index from 0.9 to 1.10 may be considered normal. Healthy persons occasionally show considerable variations beyond these limits. Concentration does not of itself affect the volume index. In pernicious anemia the volume index is almost invariably raised. The serum often has a distinct yellow color. The high index is probably also to be expected in those cases in which the pernicious picture is associated with other diseases, that is, when pernicious anemia occurs secondarily. In secondary anemia the volume index is almost always normal or lower than normal. After a severe hemorrhage, however, the volume index and the color index may be high and the blood may resemble pernicious anemia in other respects. One patient with aplastic anemia examined by Larrabee showed a low volume index. In a case of splenectomy for trauma the index was normal. In leukemia the volume index can seldom be estimated by this method. In splenic anemia the volume index was generally low. It was below normal in one case of Hodgkin's disease and high in one of malignant lymphoma.

74. **Osteitis Deformans.**—The case cited by Higbee and Ellis presented essentially all the features of the disease described by Paget, the most common manifestations of the affection being pronounced. The patient died and a careful and thorough postmortem examination was made, both macroscopic and microscopic. The findings were typical of the disease.

75. **Experimental Chronic Nephritis.**—The method used by Mitchell was very similar to that of Ophüls. Two per cent. potassium bichromate was injected subcutaneously. The amount used was started at 1 c.c. weekly, but was gradually increased in order to overcome the recuperative power mentioned by Ophüls. In one rabbit, 1/50 grain of atropin was administered simultaneously with the potassium bichromate. There was in a rabbit, injected only twice, a very marked parenchymatous nephritis with little or no indications of interstitial change. When the injections were continued several months, the predominating lesion was an interstitial nephritis. There is no evidence to show that this was produced at the same time as the parenchymatous lesion or following it. The feature noted especially in these experiments was the exophthalmos in one rabbit, which, to Mitchell's knowledge, has not been noted in experimental chronic nephritis or other conditions produced by chronic systemic intoxication. That the exophthalmos did depend on such an intoxication is, he thinks, the most probable explanation. There was no appreciable effect from the atropin used in one rabbit.

76. **Histology of Hypernephromata.**—Wilson and Willis studied fifty-four renal tumors, forty-eight of which were so-called hypernephromata; twenty-six swine embryos (serial sections), 5 to 20 millimeters; forty-three human embryos (serial sections), 6 to 70 millimeters. They concluded that most, if not all, so-called adrenal rests are probably of Wolffian origin. There is almost no evidence, embryologic or histologic, in support of Grawitz's hypothesis that the so-called hypernephromata have their origin in adrenal rests. There is much evidence that the so-called hypernephromata do not arise from proliferations of the adult secreting epithelium of the convoluted tubules. There is much evidence that the hypernephromata do arise from islands of nephrogenic tissue. Such tissue is sometimes present in the adult kidney and appears capable of forming tumors of the non-infiltrating, mixed-cordon, tubular, papilliform, and sarcoma type so characteristic of the so-called hypernephromata.

77. **Erythrocytic Nuclei of Normal Human Blood.**—King believes that he has been able to demonstrate conclusively that practically every red blood-cell in the blood of normal adults contains stainable remnants of a nucleus, and that the red blood-cells are derived from the bone marrow erythroblasts by a process of physiologic nuclear degeneration, accompanied, of course, by other changes. That the basic staining material which can be shown to exist in the central portion of practically every erythrocyte is nuclear material, King sees no reason to doubt. He feels almost confident that in a single preparation he has seen as many as ten ruptured red blood-cells, from each of which from two to six blood-platelets were emerging. He says he can hardly escape the conclusion that the blood platelets are simply the extruded fragments of the erythrocytic nuclei. The method by which he has been able to demonstrate the nucleation of the red blood-cells is simple and easily carried out. A solution of poly-

chromatic methylen blue is essential, also a saturated solution of picric acid in distilled water. This solution should contain an excess of the picric acid. In addition to these, a 1 per cent. aqueous solution of eosin, and a modified Romanowsky staining fluid will be needed. The blood films should be made on perfectly clean slides in the usual way. They must be neither too thick nor too thin. A little experience will be required before the best results can be obtained. The film should be immediately fixed for two or three minutes in methyl alcohol, and the following steps taken: (1) Rinse in tap water; (2) place for ten minutes in the blue solution; (3) rinse in water; (4) place for ten minutes in the picric-acid solution; (5) rinse in water; (6) place in 1 per cent. eosin solution for from one-half minute to two minutes; (7) rinse in water, and blot perfectly dry; (8) stain for five minutes with King's modified Romanowsky staining fluid; (9) rinse in water; dry, and examine with oil immersion.

79. **Investigations of Pulmonary Tuberculosis.**—The investigations made by Caulfield and others embrace: Variations in the type of v. Pirquet tuberculin reaction; deflection of complement test; procedures outlining possible classifications based on demonstrable serum reactions, and opsonic and phagocytic estimations. Two hundred patients were studied. Briefly, the data obtained from the procedures reported have given a means of grouping certain of the otherwise more or less indefinite clinical conceptions afforded by any study on a number of cases of pulmonary tuberculosis. Until certain of the reactions are proved specific Caulfield thinks it is doubtful whether the different end-results do or do not represent specific conditions between the host and the tubercle bacillus. Regarding the results in the light of clinical work and not from the standpoint of specificity the various data have aided definite conception on three considerations of tuberculous infection: (1) the existing relation between the infecting tubercle and host, as evidenced by (2) the amount of anatomic involvement and (3) the resulting clinical responses. The temporary prognostic values apparently afforded by the interpretation of the type of tuberculin reaction, of antigen-serum reaction, and of the phagocytic behavior of the patient, have been followed chiefly under the favorable circumstances of sanatorium life where most patients exhibit their best powers of resistance. In obtaining these results, observations were made which suggest that the biologic classification might change with clinical variation. Especially was this so with regard to the reactions obtained with various strengths of antigen and patient's serum. Here conception and expression are facilitated by regarding the possibility of two serum contents or reaction capacities. (1) Inhibition.—Serums with this effect allow hemolyses on the addition of "system" because of their serum-antigen resultants which are repellant or non-attractive to complement. (2) Tuberculous sensitizers:—Serums with these specific bodies cause true fixation of complement, shown as complete absence of hemolysis.

80. **The Swamp Fever of Horses.**—Swamp fever is a disease of horses which is widely distributed in the Western United States and in Western Canada. It is usually a chronic disease and is characterized by emaciation, weakness, irregular temperature and anemia. It is caused by an infecting agent which can be transmitted from horse to horse by the inoculation of blood taken from an infected animal. All search for a parasite by Todd and Wolbach, which might cause the disease, has been unsuccessful, although large numbers of preparations of body fluids and tissues have been examined at all stages of the disease by microscopic and bacteriologic methods.

New Mexico Medical Journal, Las Cruces

January

81 One Year's Progress in Our Knowledge of Tuberculosis. F. T. B. Fest, Las Vegas.
82 Education of the Tuberculous Individual in Home Care. E. F. Frisbee.

Bulletin of the Manila Medical Society

December

83 Leprosy. M. T. Clegg, Honolulu, H. T.
84 Polycythemia. C. B. Snyder, U. S. Army.
85 Priority in the Demonstration of Negri Bodies in the Philippines. W. P. Chamberlain, U. S. Army.
86 Community Measures Against Mosquitoes. C. S. Banks, Manila.

Canadian Medical Association Journal, Toronto

January

87 The Ancient Foundations of Heredity. A. B. Macallum.
88 *Renal Activity. T. G. Brodie.
89 *Rheumatism and So-Called Chronic Rheumatism. T. McCrae.
90 Association of Malignant Disease of the Thyroid and Multiple Lipomata. J. R. Goodall and L. C. Conn.
91 Salvarsan in Syphilis. J. G. Fitzgerald.
92 *Early Diagnosis of Pulmonary Tuberculosis. J. J. Thomson.
93 Roentgen-Rays with Bismuth Test Meal in Diagnosis of Gastric Conditions. F. A. C. Scrimger.

88. **Renal Activity.**—Brodie's view is that the glomerulus is, in reality, a means by which there may be set up at the commencement of the tubule a pressure-head sufficient in magnitude to drive the fluid down the tubule. The renal tubule is a long structure possessing an extremely narrow lumen. If, then, we apply Poisseuille's law governing the flow of fluid along capillary tubes to the kidney tubule, we at once see that a considerable pressure is required to drive even a small volume of fluid along such a tubule. It is a well-established fact that the watery part of the urine arises mainly, even under certain circumstances, entirely at the glomerular surface, and this fluid is discharged down the tubule. If we could measure the length of the tubule, the diameter of its lumen in its various sections, and then determine the volume of urine flowing along the tubule in a given time, we could, assuming that Poisseuille's law holds for the tubule, determine how great a pressure is required to maintain such a flow. To test the view, Brodie made some experiments of the following type: A vigorous diuresis was set up in an anesthetized dog by the injection of a warm, saline solution. The rate at which the urine was discharged from one kidney at the height of this diuresis was then determined, and immediately the renal vessels and ureter were ligatured and the intact organ which thus contained, as far as possible, the whole of its blood and urine at the instant of ligature, was fixed in formalin. After hardening, it was cut into portions, the medulla separated from the cortex, and pieces of the cortex weighed, embedded, and cut into sections. These were mounted in series, and then the total number of conglomeri in the whole kidney was calculated from the ratio of the weight of the whole cortex to that of the small piece examined.

The lumen of the tubule in its various parts was next measured. Taking one experiment as typical, Brodie found that a pressure of as much as 93 mm. of mercury was required to drive the fluid along one of the tubules at the rate observed during the experiment. The question at once arises: Whence is this pressure-head derived? There are only two possible sources: (1) a secretory pressure set up by the cells in some part of the tubule, presumably at the glomerulus, since the secretion of water is effected there, or (2) a direct pressure transmitted through the glomerular surface from the blood-pressure. All attempts made to ascertain whether any of the cells of the renal tubule can set up a secretory pressure analogous to that observed in the case of the submaxillary gland, have completely failed. The maximum pressure at which urine can be discharged from the kidney is always from 30 to 40 mm. Hg less than the arterial blood-pressure. Hence, Brodie's suggestion is that the pressure-head is derived from the capillary blood-pressure within the glomerulus, that pressure being transmitted in undiminished amount through the glomerular capillary wall and epithelium. To express this view of the hydrodynamic action of the glomerulus, he terms the glomerulus a "propulsor."

89. **Chronic Rheumatism.**—The whole argument made by McCrae is that there is no entity which we can properly term "chronic rheumatism," and he tries to point out the reasons for doing away with one of the names which is so often treated. He says that the public often reproaches physicians for the inability of the profession to cure "chronic rheumatism." Is it any wonder, he asks, when in so many instances the actual condition is not properly diagnosed but is given a name which does not have any reference to it, and to this the treatment is directed; witness the patient with popliteal aneurysm, on whom much good medicine has been wasted. We can still echo the hundred year old sentiment of Haygarth that a number of conditions are grouped together as rheumatism, which have no other feature in common than the occurrence of pain.

92. **Diagnosis of Tuberculosis.**—Thomson emphasizes (1) the lymphatic nature of the disease in its primary state; (2) the predisposition of the paravertebral cranial parts of the lung; (3) the rarity of single lesions in the lower lobes or bases of the lungs; and (4) the importance of percussion. He also notes the value of the v. Pirquet test in all questionable cases. He regards it as an undoubted advance over the uncomfortable subcutaneous injection with its accompanying fever.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

January

94 Edward Jenner, M.D., LL.D., F.R.S. G. W. Cook, Washington, D. C.
95 Physiologic Action of Certain Electrical Currents. C. M. Hazen, Richmond.
96 Fibroids of the Uterus, Complicated by Pregnancy. E. T. Hargrave, Norfolk, Va.
97 Three Unusual Cases in Radiographic Work. D. D. Talley, Richmond.

Cleveland Medical Journal

January

98 *Phylogenetic Association and Certain Medical Problems. G. W. Crile, H. G. Sloan and J. B. Austin, Cleveland.
99 Tabes Dorsalis and the Result of Specific Treatment. F. Billings, Chicago.
100 Fibrous Nasal Polypi. D. A. Prendergast and W. J. Abbott, Cleveland.

98. **Phylogenetic Association.**—It is the purpose of the authors to offer evidence that, underlying medicine, there are certain great natural laws which show that disease as well as health is a part of the web of life; that every phenomenon of disease fits precisely into a general plan, and that like a difficult picture puzzle if we persist we can make up the completed picture of disease. The experimental work and the laboratory findings are described fully, but the length of the article and the limited space in these columns, unfortunately prohibits abstracting this paper.

Detroit Medical Journal

January

101 Phosphatic Index as a Means of Diagnosis and an Aid in Treatment. J. H. Dowd, Buffalo, N. Y.
102 Surgical Aspect of Goiter with Special Reference to Pressure Symptoms. A. W. Blain, Detroit.
103 An Improved Method for Preparation of Bacterial Vaccines. C. M. Stafford, Detroit.

Woman's Medical Journal, Cincinnati

January

104 Fever in the Puerperium. A. W. Tallant, Philadelphia.
105 Suboxidation a Factor in the Cause of Disease. M. E. Dickinson, Rochester, N. Y.
106 The Metranoikter in Dysmenorrhea. C. MacFarlane, Philadelphia
107 *A Successful Case of Cartilage Transplantation for Prevention of Perforation in Submucous Resection. I. D. Kerr, Boston.

107. **Cartilage Transplantation for Prevention of Perforation in Submucous Resection.**—In Kerr's case there was a marked cartilaginous deviation to the right with a corresponding large basal spur. There was considerable crusting and secretion in the nares. The mucous membranes bled easily, and on both sides of the septum a small white area of cartilage denuded of its mucous membrane was seen. It seemed to the author that if she did a submucous resection these traumatic perforations in the mucous membranes, together with the incision on one side anteriorly, although apparently not directly opposite when the deviated cartilage had been removed and the subsequent shrinking of the mucous membrane had taken place, that a perforation would result. To prevent this, it occurred to her that she might try transplanting a piece of cartilage between the perforations. With this thought in mind, she removed only enough cartilage with the Ballenger knife to allow space to remove the basal spur. That done, she removed the anterior half of the deviated cartilage above, and found a sufficiently straight and large enough remaining piece of cartilage to transplant, and this she allowed to remain in position until she had completed the operation. She then transplanted this piece of cartilage, which was about three-quarters of an inch in length and about one-half inch in width, bringing it as far forward as the incision. The flaps of the incision were brought carefully into place and the nares packed for twenty-four hours. Three days after the operation granulations were seen springing in from the edges of the perforations of the mucous membranes. In ten days the granulations had completely filled in, and no cartilaginous areas could be seen. Seven months have now elapsed since the operation. There is no perforation, the mucous membrane presents a healthy condition, there has been no epistaxis, and the patient, a girl, has perfect breathing.

Long Island Medical Journal

January

108 Empyema of the Maxillary Antrum; Symptomatology, Pathology and Treatment. S. H. Lutz, Brooklyn, N. Y.
109 Suicide by Poison. C. D. Cleghorn, Mineola, N. Y.
110 Historical Sketch of St. Mary's Hospital of Brooklyn. J. Harrigan, Brooklyn, N. Y.
111 Historical Sketch of St. John's Long Island City Hospital. J. H. Barry, Long Island City, N. Y.

Virginia Medical Semi-Monthly, Richmond

January 27

112 Treatment of Some Forms of Cardiac Failure. L. F. Barker, Baltimore.
113 Acute Peritonitis. H. S. MacLean, Richmond.
114 Ileus. S. S. Gale, Roanoke.
115 Local Anesthetics in Anorectal Surgery. E. H. Terrell, Richmond.
116 The Status Lymphaticus; A Condition Found in Subjects Dying from General Anesthesia. C. P. Jones, Newport News.

Kentucky Medical Journal, Bowling Green

January 15

117 Indications for and Preliminaries to Nephrectomy. B. F. Zimmerman, Louisville.
118 Importance of Fetal Physical Diagnosis in Management of Shoulder Presentations. F. C. Wilson, Louisville.
119 Traumatic Hernia. O. E. Bloch, Louisville.
120 The Herz Sphygmomanometer. E. F. Horine, Louisville.
121 Suprapubic Lithotomy for Vesical Calculus Weighing 500 Grains. J. T. Dunn, Louisville.
122 Four Cases of Esophagoscopy. G. C. Hall, Louisville.
123 Enlarged Prostate of Traumatic Origin. G. H. Day, Louisville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 21

1 A Lecture on Cardiac Arrhythmia. A. J. Jex-Blake.
2 *Theory and Practice in Treatment of Pulmonary Tuberculosis. W. C. Bosanquet.
3 *A Series of 1,000 Inoculations, Chiefly in Private Practice. H. W. Crowe.
4 *Typhoid Infection. J. A. Mills.
5 Myasthenia with Enlargement of the Thymus. J. O. Symes.
6 *Antihemolytic Action of Arsenic. J. A. Gunn and W. J. Feltham.

2. **Treatment of Pulmonary Tuberculosis.**—While there is nothing new in Bosanquet's paper his emphasis of the principles of the treatment of tuberculosis is worthy of repetition. He says that there is no specific remedy or universal mode of treatment for tuberculosis of the lungs. Neither tuberculin, nor rest, nor work, nor mountain air, nor a sea voyage, nor a sanatorium, is an infallible remedy to be administered to all, as we give quinin for malaria or mercury for syphilis. We must study the individual patient, his circumstances and his idiosyncrasies and, armed with this knowledge, try to raise his resistance to the bacillus and its poisons. Fortunately, the human organism has considerable powers of resistance, if it is not debilitated by adverse conditions; and though we must, above all, endeavor to recognize cases early, before the disease has advanced far, yet even in advanced cases there is always hope of arrest of the disease or at least of a temporary reprieve and prolongation of life.

3. **One Thousand Inoculations.**—The anterior surface of the thigh is the least painful, and in any patient who is at all needle-shy, Crowe always injects in this region, varying each time the exact locality. Other situations are into the extensor surface of the upper arm, the deltoid, or into the skin of the abdomen, but he has usually avoided the conventional site, namely, that of the intrascapular region, as the skin is so tough that it is extremely difficult to avoid hurting the patient. Sometimes he gives the injection deeply into the muscles, sometimes subcutaneously, but he does not believe

the result is affected. The vaccines he used have all been home-grown, with the exception of acne and tuberculin. Of thirty-two cases of staphylococcus infections, twenty-eight patients were cured. One case of pyemia terminated fatally; two patients with acne and one with suppurative eczema are still under treatment. Three of four cases of streptococcus infections yielded readily to the treatment. *In one case* of nasal catarrh, apparently caused by an extremely long streptococcus, no dose had any effect whatever. The case was a complete failure under treatment. Of six cases of infection due to *B. coli communis*, four patients recovered; one patient with nephritis and one with mucous colitis were not benefited. In seven cases of infections of the respiratory passages other than tuberculous, and caused by the pneumococcus, *M. catarrhalis*, bacillus of Friedländer, and the bacillus of influenza, the patients responded promptly. In a case of unresolved pneumonia, due to Friedländer's bacillus, the whole condition cleared up within forty-eight hours after the first inoculation, although the man had been in bed for a fortnight with high temperature, and extreme dyspnea on the slightest movement. Of thirty-six cases of tuberculosis (skin, one; kidney, two; peritoneum, three; glands, four; breast, one; bones, five; lungs, twenty;) seventeen patients were *cured* (lungs, seven; bones, breast and skin, one case of each; glands, four; peritoneum, three); five patients were benefited (bones, one; kidney, one; lungs, three); *eight remained unaffected* (kidney, one; bones, two; lungs, five).

4. **Typhoid Infection.**—Rats are suggested by Mills as being carriers of typhoid. It is in autumn, when the grain has been gathered and as winter approaches that rats and mice leave the fields and make for human habitations. One means by which they obtain entrance—as a matter of common observation—is by drain and sewage passages, especially if those be defective. (Rats themselves are apt to cause leakages and defects in improperly constructed sewers.) Granted the existence of people with actual typhoid, or of human typhoid bacillus-carriers whose excreta is among the sewage where the rats live, and which it is possible they devour, it is easy to see how millions of bacilli may be present on the body, feet, jaws and tails of these rodents, whereby food and drink may become directly as well as indirectly contaminated. In addition, typhoid bacilli may exist in the intestine of mice and rats, and their excreta in turn be a source of infection. An association with rats is traced by Mills in an asylum where the occurrence of typhoid could not be explained in any other way.

6. **Antihemolytic Action of Arsenic.**—Experiments made by Gunn and Feltham with sodium arsenite and sodium arsenate lead *them to conclude that arsenic*, whether in the form of sodium arsenite or sodium arsenate, exerts on the red blood-corpuscles an action antagonistic to that of certain hemolytic agents. The experiments, therefore, afford additional proof *in favor of the view that a protective action on the formed* red blood-corpuscles against normal or abnormal hemolytic processes may, in part at least, account for the as yet imperfectly explained benefit which results from the medicinal administration of arsenic in blood-diseases.

Lancet, London

January 21

7 *Points in Diagnosis of Orbital Disease.* J. S. Hosford.
8 Transverse Fractures of the Patella, Without Separation of the Fragments. A. E. Johnson.
9 *Congenital Pulmonary Stenosis, with Special Consideration of the Nature of the Secondary Blood Changes. E. P. Weber and G. Dorner.
10 Intravenous Method of Treatment of Syphilis with Salvarsan, with a Convenient Apparatus for Such Administration. H. W. Bayly.
11 *"Nodular" Fibromyositis, an Everyday Affection. W. H. M. Telling.
12 *Influence of Chloroform When Repeatedly Administered in Small Doses. G. H. Clark.

9. **Congenital Pulmonary Stenosis.**—The authors reaffirm their previous conclusion that the secondary polycythemia in cases of congenital heart disease is seldom, if ever, rivaled in degree by the secondary polycythemia which sometimes, as is well known, occurs in chronic acquired valvular affections (of the mitral valve) and in adherent pericardium. It is more nearly rivaled by the marked secondary polycythemia occasionally associated with late stages of pulmonary emphysema, chronic bronchitis, asthma, old bilateral pleuritic adhesion, chronic interstitial pneumonia, and pulmonary fibrosis. The polycythemia in all such cases differs from the polycythemia (possibly of primary myelogenous origin) associated with chronic splenomegaly, which has been termed "erythremia," by the not infrequent absence of real cyanosis in erythremia, especially in its early stages. Just as hypertrophy of the walls of the heart is useful in so far as it compensates for mechanical defects in the valvular apparatus, so *also is polycythemia useful in so far as it compensates for* difficulties in the proper oxygenation of the blood and tissues of the body; but just as in cardiac valvular disease great hypertrophy of the heart indicates some grave defect in the valvular mechanism, so also an extreme increase in the number of erythrocytes in the blood points to great impairment of the normal process of oxygenation of the body.

11. **"Nodular" Fibromyositis.**—It is maintained by Telling that chronic muscular rheumatism, or, to quote some of its synonyms, rheumatism, muscular and tendinous rheumatism, myalgia, muscular fibrositis, etc., is a pathologic condition, the essential morbid process of which is an *inflammatory* exudation into the fibrous tissues in almost any situation in which fibrous tissue is found. This exudate leads to swelling and thickening of very variable character and degree; it may be *slight and impalpable; severe and definitely tumor-forming;* acute and transient; chronic, and eventuating in hard fibrous lumps which resist all efforts at dispersal by the ordinary means at our disposal; but under all circumstances it tends to be painful. The one almost constant symptom which results from this fibrositis is pain. These infiltrations are painful when they are pressed on, and if vigorously rubbed they swell up and the pain is greatly increased. This local pain on pressure is practically the diagnostic feature of these cases. If a patient presents himself with any of the ordinary manifestations of chronic rheumatism, as a lumbago, sciatica, pleurodynia, or a cephalagia, and with any obscure myalgic or neuralgic pain in any part of the body, Telling urges that a careful investigation should be made of the fibromuscular tissues of the affected areas. In the more recent diffuse cases there is general tenderness of these tissues, and one may not be able to feel anything which one could definitely assert to be a palpable thickening. But more usually, either with or without such general tenderness, one will find areas which are definitely, often exquisitely, tender to touch. *All that* is needed is a careful digital exploration of the structures involved. General treatment meted out to a feverish attack, with the employment of the ordinary pain-relieving drugs, *is generally sufficient to effect a cure. If the pain is at all* localized a single thorough application of massage may result in cure in this early stage. The removal of any discoverable cause, such as gastrointestinal irregularities, must be undertaken, and will not only help toward a cure, but will tend to prevent recurrences. During the more acute exacerbations drugs such as sodium salicylate, and the various means described in the acute attack produce a certain measure of relief, but recurrence is liable to occur indefinitely. To obtain a permanent cure and a complete relief from the recurrent attacks it is absolutely necessary that local treatment should be adopted with a view to obtain a complete dispersal of the indurations. Counter-irritation by blistering or cautery produces relief. Nothing, perhaps, is so efficient as the rubbing in of oil of gaultheria. Mechanical treatment must be adopted to secure a permanent dispersal. The most important of the forms are massage and systematic exercises. Acupuncture is undoubtedly of great use in relieving pain, but in Telling's experience does not produce complete dispersal of the infiltrations. In cases of fibrous nodules which will not yield to simpler measures, and which by implicating or pressing on nerves cause persistent pain, excision is not only advisable but necessary, the only caution being that the nodule must be definitely localized beforehand.

12. **Influence of Chloroform in Small Doses.**—Clark found that chloroform repeatedly administered by the respiratory passages, subcutaneously, and by the stomach in small doses rapidly kills rabbits. The liver shows degeneration of the

cells sometimes so marked that the whole center of the lobule is broken down into débris. The cells in the center of the lobule are early affected, those further out later. Fat is always present, generally in large quantities. The kidney suffers to some extent, but relatively more when the chloroform is inhaled than when injected or given by the stomach. Fat is occasionally found in degenerated cells. The spleen shows intense congestion, the sinuses being packed with red blood-corpuscles. Along with the red corpuscles an orange-colored pigment is generally present which reacts to the stain for iron. A large number of very large phagocytes are present in most cases. The average weight of the spleen was 0.46 gram heavier than the controls when chloroform was inhaled, and 0.59 gram and 0.17 gram heavier when injected and when given by stomach respectively. Degenerative changes were observed in the cardiac muscle. Fat was not observed in any of the hearts examined.

Journal of Tropical Medicine and Hygiene, London

January 16

13 Possible Plurality of Species of the Trypanosomes Affecting Man in Africa. A. Castellani.
14 Trypanosome Diseases of Domestic Animals in Uganda. Sir D. Bruce, A. E. Hamerton, H. R. Bateman and F. P. Mackie.
15 The Human Trypanosome of Northern Rhodesia. L. E. W. Bevan.

Clinical Journal, London

January 11

16 Cancer of the Rectum. F. C. Wallis.
17 Acute and Chronic Inflammatory Lesions of Bone. G. E. Waugh.
18 The Acute Abdominal Case from the Standpoint of a Country General Practitioner. F. W. Langridge.

January 18

19 Gait as an Aid to Diagnosis. H. H. Tooth.
20 Cancer of the Rectum. F. C. Wallis.
21 Value of Electricity in Treatment of Some Abdominal Diseases. H. Manders.

Medical Press and Circular, London

January 11

22 The Help of Roentgen-Rays in Diagnosis of Diseases of the Chest A. H. Pirie.
23 Treatment of [illegible] and Mastoid Disease by Conservativ[illegible] A. A. Dighton.
24 The Traumati[illegible]

Archives des Maladies de l'App. Digestif, Paris

November, IV, No. 11, pp. 626-688

25 *Hemorrhagic Colitis. A. Mathieu.
26 *Syncopes in Chronic Colitis. (Les pertes de connaissance dans les réactions d'origine colique.) M. Millon and L. Marre.
27 Rapidly Fatal Case of Diabetes Mellitus with Minimal Lesions in the Pancreas. (Cas de diabète maigre.) M. Labbé, L. Lavastine and G. Vitry.
28 Serodiagnosis of Echinococcus Disease of the Liver. A. Bauer.

25. Hemorrhagic Colitis.—Mathieu summarizes the treatment for hemorrhage in the course of simple dysenteriform colitis as merely rest in bed, dieting, moist heat to the abdomen, lavage of the intestines and a mild purge after two or three days. The lavage should be done with an isotonic fluid at a temperature of 38 or 40 C., not injecting more than a liter at most and never with a pressure over from 20 to 40 centimeters. Done in this way, the bowel is cleansed and soothed, with no fear of exaggerating the tendency to spasm. In the severer cases he gives two injections a day of a 0.02 per cent. solution of silver nitrate, seldom exceeding a total of four or five such injections. In the chronic forms, local applications or operative measures may become necessary. The record of the latter as he reviews it is not very encouraging and the later history is not known of many of the patients cited as cured.

26. Syncopes in Chronic Colitis.—Millon and Marre have encountered cases of transient loss of consciousness in the course of an exacerbation of the intestinal trouble inducing symptoms of severe indigestion. In other cases the syncope, followed by a small diarrheic passage, is the only sign of trouble. The syncopes are brief and leave no traces, but the dread of them may become an obsession in time, and they might prove dangerous in persons inclined to arteriosclerosis or nephritis. Treatment should seek to soothe the nervous system as it is peculiarly irritable in these patients, besides treatment of the intestine. Four cases in adults are reported in detail. The oldest was a man of 67.

Annales des Maladies des Org. Génito-urinaires, Paris

December 1, XXVIII, No. 23, pp. 2115-2208

29 *Reflex Nervous Phenomena in Urinary Apparatus in Appendicitis. F. de Meo.

December 15, No. 24, pp. 2209-2304

30 *Myomatous Tumors in the Bladder. (Tumeurs musculaires lisses de la vessie.) J. Heitz-Boyer and Doré. Commenced in No. 22.
31 *Treatment of Kidney Disease by Nephrectomy. Pausson.

29. Symptoms in Urinary Apparatus from Appendicitis.—De Meo relates the particulars of six cases in Italian literature and two from his own experience in which reflex nervous phenomena, kidney colic, pain during micturition, bladder tenesmus, cystalgia, smarting in the urethra or priapism were the first signs of trouble which later proved to be appendicitis. The inflammation in the appendix evidently acted on the vesical, renal, hypogastric or pubic plexus, inducing functional disturbance. In his cases the urinary symptoms were explained by discovery of an abscess between bladder and rectum, evidently of appendicitic origin, although there was no history of appendicitis. Both patients were young men. In two of the cases from the literature these attacks of pain in the right inguinal region had been ascribed to rheumatism, the fourth simulated kidney colic with strangury. As no improvement followed a month of medical measures, the appendix was removed and all symptoms ceased. Acute retention of urine was also the predominant symptom in another case in which the lesion proved to be an encysted abscess in the pouch of Douglas, the appendicitis having run a latent course.

30. Myomatous Tumors in the Bladder.—Of the twenty-three patients given operative treatment, two died within a few days of peritonitis and one from unknown cause. The literature on the subject is reviewed in detail.

31. Indications for Nephrectomy.—Pausson concludes his review of the results of the functional tests as applied to determine the condition of the other kidney with the statement that none of them gives positive information. The confidence in the functional capacity of the remaining kidney cannot be more than presumptive at present. So many factors are involved that it is impossible to estimate them all with certainty.

Archives de Médecine des Enfants, Paris

December, XIII, No. 12, pp. 881-986

32 Inconvenience and Dangers of Milk from Cows Fed with Factory Waste. E. C. Aviragnet.
33 *Mucomembranous Colitis. A. Arraga.
34 After-Treatment of Congenital Dislocation of the Hip Joint Reduced by the Bloodless Method. (Luxations congénitales de la hanche.) P. V. Badin.
35 Case of Deforming Fibrous Osteitis with Osteomalacia. S. de Souza.

33. Mucomembranous Colitis.—Arraga says that this affection is extremely common in Argentina among children, and that his experience has demonstrated that it is a manifestation of an inherited arthritic tendency. This primary arthritic tendency he ascribes to overfeeding, especially with meat and eggs. Children born with this tendency manifest it early by green diarrhea alternating with constipation. The tendency to constipation and colitis may remain through life—the result of a functional insufficiency of the digestive organs, liver and ductless glands. Overfeeding with meat and eggs aggravates this congenital tendency. Women nursing such children should subsist largely on a milk-vegetable diet, he affirms, and weaning should be postponed as late as possible.

Lyon Médical, Lyons

December 11, CXV, No. 50, pp. 981-1024

36 *[illegible]erculosis by Artificially Induced [illegible]nt.
37 [illegible] Disease in the Lyons Schools. C. Lesieur.

December 18, No. 51, pp. 1025-1080

38 Advantages of Appendicostomy: Two Cases of Intestinal Obstruction. G. Gayet.
39 Classification of School Children Who Cannot or Will Not Study. (Essai de classification des enfants paresseux.) E. Weigert.

36. Artificially Induced Pneumothorax in Tuberculosis.—Courmont reports benefit from immobilization of the lung in three patients out of his series of four thus treated. In the one unsuccessful case the tuberculous lesions were not restricted to the lungs and larynx. The method is necessarily limited to cases in which only one lung is involved and the adhesions are not too pronounced. Even ulcerative processes in the larynx may heal when expectoration from the diseased lung stops—this point is instructively brought out in his case-reports. Lesions in the intestines do not seem to be influenced by the suppression of the sputum. In three other cases, the method was found inapplicable. The nitrogen was injected in amounts ranging from 500 to 1,300 c.c., a total of 9,800 c.c. being injected in the first case between April 13 and September 1, in eleven injections. The total was 12,950 c.c. in seventeen injections in the course of seven months in the second case. The third patient was so much improved by five injections in about six weeks that he considered himself cured and declined further treatment.

Presse Médicale, Paris

January 11, XIX, No. 3, pp. 17-24

40 *Myocarditis and Sudden Death in Scarlet Fever. E. Weill and G. Mouriquand.

40. **Fulminating Scarlet Fever.**—Weill and Mouriquand found intense lesions of acute myocarditis at necropsy on a young man who died suddenly on the fifth day of severe scarlet fever which had developed suddenly in the midst of apparent health. The heart findings indicated serious trouble from the first.

Revue de Gynécologie, Paris

December, XV, No. 6, pp. 513-632

41 External Male ; Suppurative Orchitis
Simulating nd Jalifier.
42 *Fibromyomas ases. P. Peugniez and
L. Jullien.

42. **Gastric Fibromyomas.**—Peugniez and Jullien report two cases; in both the operation was done on the assumption of cancer. Both patients have been apparently cured by excision. In some of the cases on record the tumor after a long benign phase seemed to enter on a period of rapid malignant growth.

Revue de Médecine, Paris

December, XXX, No. 12, pp. 937-1012.

43 Mycosis Due to the *Oidium cutaneum.* (Oidiomycose gommeuse ulcéreuse disséminée. Mycose nouvelle.) de Beurmann, H. Gougerot and R. Vaucher.
44 Pathogenesis of Cancer. (Maladie et mutation.) M. Jankelevitch.
45 Lesions of the Pancreas in Infantile Gastro-Enteritis. M. Salomon and P. Halbron.
46 Hippocratic Finger with Cardiovascular Disease. (De l'hippocratisme.) J. Baur.

Semaine Médicale, Paris

January 18, XXXI, No. 3, pp. 25-37

47 *The Tourniquet Sign of Disease with Hemorrhagic Manifestations. (Le signe du lacet.) C. Frugoni and F. Giugni.

47. **The Tourniquet Sign of Hemorrhagic Disease.**—For more than four years Frugoni and Giugni have been studying the local phenomena which develop in an affection with a tendency to hemorrhagic manifestations when a slightly constricting band is applied to the limb above. The band is not drawn tight enough to induce actual arterial hyperemia, but merely enough to cause the veins to be a little more prominent, and any tendency to a hemorrhagic diathesis is then rendered locally evident. They relate their experiences with this test applied to patients with various hemorrhagic affections, comparing the findings with those of tests of the various properties of the blood. The trouble does not seem to be with the blood itself so much as in the walls of the vessels. In some of their patients a slight traumatism at one point was followed by hemorrhagic manifestations all over the body except the face, and no means could be devised to induce them in the face; evidently the vessel walls here are exceptionally stout.

Archiv für Kinderheilkunde, Stuttgart

LV, Nos. 1-2, pp. 1-160. Last indexed February 11, p. 462

48 Research on the Thymus and Its Importance in Pediatrics. H. Klose.
49 *Tuberculosis and Tuberculin Treatment in Infancy and Early Childhood. H. P. Rohmer.
50 Cutaneous Thrush in Infants. (Soormykose der Haut im
51 E. Ruediger.
52 * R. Halberstadt.
53 Calomel as a Diuretic. F. v. Szontagh.

49. **Tuberculin Treatment of Infants and Young Children.**—Rohmer reports the details of six cases in which Schlossmann's method of tuberculin treatment with comparatively large doses (0.0002 gm.) was applied. The outcome was unfavorable in every instance, although at first marked benefit seemed to be derived; the underlying tuberculosis however continued its course practically unmodified. The large doses of tuberculin seemed to exert an injurious influence on the organism as a whole, bone lesions developing in some of the children while in one the tuberculosis flared up in a fulminating form after an intercurrent attack of measles.

52. **Idiosyncrasy to Cows' Milk in Infants.**—Halberstadt reports six cases and is inclined to regard idiosyncrasy to cows' milk as a symptom of a congenital constitutional anomaly. It does not manifest itself during the first days of life but develops gradually, like pylorospasm, and seems to be somewhat in the nature of anaphylaxis. The different elements of the milk seem to be at fault in different cases but the constitutional unfitness is the primal cause.

Archiv für klinische Chirurgie, Berlin

XCIV, No. 1, pp. 1-201. Last indexed Dec. 31, 1910, p. 2312

54 Surgery of the Biliary Apparatus. (Beiträge zur Chirurgie des Choledochus und Hepaticus einschl. der Anastomosen zwischen Gallensystem und Intestinis.) W. Eichmeyer. Concluded.
55 Fracture of the Radius. H. Zuppinger.
56 Hernia of the Bladder. R. Felten.
57 Importance and Treatment of Congenital Bladder Diverticulum. B. N. Cholzoff.
58 Dosage in Radiotherapy of Tumors. (Massendosirung bei Tumoren.) A. Hessmann.
59 Metastatic Tumor in Pleura with Primary Racemose Sarcoma of Cervix Uteri. A. Heddäus.
60 *Results of Operative Treatment of Diffuse Peritonitis. H. Schmid.
61 Experimental Transplantation of Thyroid and Parathyroids. (Ueber homoioplastische Epithelkörperchen- und Schilddrüsenverpflanzung.) H. Leischner and R. Köhler.
62 Echinococcus Disease of the Bones. (Knochenechinokokkus.) I. Titow.

60. **Operative Treatment of Diffuse Peritonitis.**—Schmid reviews the experiences in this line in Körte's surgical service at Berlin. Rigidity of the abdominal walls and local pain indicate the danger and demand immediate operation. To wait until further signs of peritonitis develop, after perforation of the stomach or other organ or appendicitis, is to court disaster. Perforation of lower parts of the intestines has a graver prognosis. The outcome in all cases depends more on the stage of the peritonitis than on technic. Peritonitis pus is peculiarly dangerous for loose cellular tissue, fat tissue and for the fascia of the abdominal wall. The abdomen can master small amounts of infectious material but succumbs when confronted with too much. Prevention and early operation are the watchwords of success, he declares. In 358 operative cases the mortality among the 235 patients in whom the abdomen was rinsed out—which includes all the severer cases—was 40 per cent., while it was 42 per cent. in the others. The mortality was 25 per cent. for both groups in the cases in which the operation was done within three days after the onset of trouble. It was 55.4 per cent. in the "rinsed" patients operated on by the fourth day or later, while it was 69.2 per cent. in the corresponding group of the "non-rinsed" patients. This difference speaks volumes, he declares, in favor of rinsing out the abdominal cavity as the second group contained all the milder cases.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 2, pp. 175-302. Last indexed January 14, p. 159.

63 Comparative Research on Acid-Fast Bacilli. (Vergleichende Untersuchungen mit den praktisch wichtigeren säurefesten Bazillen.) N. Jancso and A. Elfer.

Berliner klinische Wochenschrift

January 2, XLVIII, No. 1, pp. 1-48

64 *Typical and Atypical Pulmonary Tuberculosis. (Lungenphthise.) D. v. Hansemann.
65 Malignant Syphilis and Salvarsan. A. Buschke.
66 Cutaneous Reaction of Syphilids Under Salvarsan. R. Kalb.
67 *Salvarsan Given the Nursing Mother for Inherited Syphilis in Infants. J. Peiser.
68 s. (Die anatomischen Substrate der
und ihre Bedeutung für die Rönt-
entuberkulose.) M. Cohn.
69 * east-Fed Infants. S. Engel and L.
70 Present Status of Tropical Diseases. (Fortschritte auf dem Gebiete der Tropenkrankheiten.) H. F. W. Hoffmann.

January 9, No. 2, pp. 49-100

71 Proctoscopy and Anemia from Varices in Upper Rectum. (Recto-Romanoskopie und schwere Anämien durch Blutungen aus hochsitzenden Varicen des unteren Dickdarms.) C. A. Ewald.
72 The Electrocardiogram with Displacement of the Heart. G. F. Nicolai.
73 Susceptibility to Bacterial Infection. (Bakterienemfindlichkeit und ihre Bedeutung für die Infektion.) F. Neufeld and H. Dold.
74 The "Interstitial Gland" of the Ovary Found in Certain Animals. (Die interstitielle Eierstocksdrüse.) L. Fraenkel.
75 *Remarkable Urinary Concrements. (Ungewöhnliche Blasen- und Nierensteine.) M. Roth.
76 Brief Ethyl-Chlorid General Anesthesia. M. Behr.
77 Theory of Anaphylaxis. U. Friedemann.

64. **Atypical Tuberculous Processes in the Lung.**—Hansemann believes that important information as to the curability of pulmonary tuberculosis can be derived from the study of necropsy findings in deaths from various causes. Diseases which do not show a tendency to spontaneous cure are not amenable to therapeutics. Therapeutics, therefore, he says, is engaged merely in cooperating with and fostering the natural tendency to heal. Unless the anatomic findings show a tendency to a spontaneous cure under favorable conditions, little can be hoped from treatment; he has never known of a case of acute miliary tuberculosis which terminated in recovery. The same can be said of acute disseminated cheesy bronchitis. Anatomic findings suggesting even a beginning of a healing process with these affections have never yet been encountered, to his knowledge. With tuberculous apical processes no recovery is known when the lesion extended below the second or third rib; the most that can be expected from treatment in these cases is to prolong life. It is impossible to destroy all the tubercle bacilli in such advanced cases. In regard to the importance of mobilizing the superior aperture—the Freund operation—he admits the usefulness of curing the rigidity of the part but thinks that this can be accomplished by gymnastics—exercises of the muscles attached to the upper rib. He emphasizes in particular the importance of this mobilization as a prophylactic measure in families with a history of tuberculosis and an inherited tendency to stenosis of the superior aperture. He is convinced that if orthopedic measures of this kind could be commenced about the age of 12 and continued to 21, the development of typical pulmonary tuberculosis might be avoided in many cases. It is the task of the family physician to warn the parents of the necessity for such treatment for their children, especially when they are growing fast and the chest is flat and narrow. In conclusion he insists anew on the necessity for antisyphilitic measures when a tuberculous process develops in a syphilitic. Typical pulmonary tuberculosis always begins in the apex, he states, but atypical forms are encountered almost invariably in children and in the aged.

67. **Salvarsan in Inherited Syphilis.**—Peiser refers to four cases in recent literature in which salvarsan taken by the nursing mother had a beneficial effect on the infant with severe manifestations of syphilis. He then describes two cases and refers to four recently reported in which no benefit was apparent although the mothers were given salvarsan systematically.

69. **Urine Reaction in Breast-Fed Infants.**—Engel and Turnau state that a black precipitate forms in the urine of breast-fed infants when 15 or 20 drops of a 2 per cent. solution of silver nitrate are added to 5 c.c. of the urine. The discoloration reaches its height in ten minutes or still earlier if the fluid is heated. There is no black discoloration with urine from bottle-fed infants.

75. **Urinary Concrements.**—Roth gives an illustrated description of a number of cases of remarkable kidney and bladder concrements and comments on the difficulty of differentiation when, as often happens, the symptoms are slight and misleading, or there may be no subjective symptoms. The main point is to bear the possibility of eventual stone formation in mind. In one of his cases nothing suggested kidney stone until the cystoscope revealed the source of the bleeding as in the kidney. Patients with hematuria are too apt to be lost sight of after the hemorrhage is over, and yet hematuria, he insists, is almost invariably the manifestation of some important urogenital affection. Mistakes will be avoided far more frequently if the cystoscope is used even with apparently merely nervous symptoms on the part of the bladder. No one should be classed as a "sexual neurasthenic" until after exclusion of all other possible causes.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 1, XLI, No. 1, pp. 1-48

78 Salvarsan in Syphilis. E. Heuss.

January 10, No. 2, pp. 49-80

79 Modified Definition of Spores. (Warum ist est berechtigt, der granulären Form des Tuberkulosevirus Sporencharakter zuzuschreiben?) W. Knoll.
80 Transfusion of Blood in Pernicious Anemia. Tièche.

Deutsche medizinische Wochenschrift, Berlin

January 12, XXXVII, No. 2, pp. 49-96

81 Syphilis in Rabbits. (Syphilitische Allgemeinerkrankung bei Kaninchen.) P. Uhlenhuth and P. Mulzer.
82 *Poisonous [illegible] gesundheitsschädlicher Stoffe in d[illegible] W. P. Dunbar.
83 *Fever with [illegible] Suprarenal Tumors. J. Israel.
84 *Phenolphthalein Test for Occult Hemorrhage in Gastro-Intestinal Tract. I. Boas.
85 Relations Between Tabes Dorsalis and Leptomeningitis. M. Astwazaturow.
86 Bactericidal Properties of Effusions. S. Weil.
87 Nail Extension. T. Voeckler.
88 Plastic Operation with Functional Cure of Severe Trapezius Paralysis. O. Rothschild.

82. **Poisonous Butterine.**—Dunbar's communication, giving the results of his research, was summarized in the Berlin Letter, February 11, page 435. He warns of the danger of new poisonous ingredients being used in the production of articles intended for food as the manufacturers go farther afield in search of less expensive ingredients for their products. (As stated in the Berlin Letter, January 7, page 54, the firm manufacturing the poisonous butterine advertised a reward for "discovery of the person who had adulterated the product," suggesting that it was a criminal act of revenge. But Dunbar traced the disturbances to a new ingredient used in making the butterine.)

83. **Fever With Malignant Tumors in Kidneys or Suprarenals.**—Israel has encountered eighteen cases in which a tumor in a kidney or suprarenal was accompanied by intermittent or relapsing fever. In some of the cases the fever was for a long time the only sign that anything was wrong. In twelve of the cases the cancer was confirmed by an operation and he gives the temperature curve of some in this group, showing the complete disappearance of all tendency to fever after removal of the cancer, and its persistence without much modification after merely palliative or partial operations. With metastasis the fever flares up again as also if some hitherto latent cancer germs rouse to malignant energetic growth. The outcome was less favorable in the febrile than in the non-febrile cases. The importance of suspecting cancer with fever of unknown cause is illustrated by the case of a patient at the Trousseau hospital at Paris, with a large tumor in the left kidney and intermittent fever, who was long treated on the assumption of malaria and enlarged spleen. One of Israel's patients with hectic fever but no signs of pulmonary or bronchial tuberculosis was sent to a sanatorium for lung diseases until development of signs pointing to a tumor in the kidney. Israel comments on the scanty literature on fever with renal cancer and hypernephroma, some of the most experienced clinicians not even mentioning the subject; but he declares that this must be due to inadequate study of the cases or misinterpretation of the findings or to too brief period of observation before the operation. In some patients the fever always accompanied or just preceded hematuria. The fever was observed with cancers of different histologic structure. The rapid growth of the tumor, propagation to the adipose capsule, veins or adjoining tissue favor the development of a febrile temperature but are not indispensable for it.

84. **The Phenolphthalein Test for Occult Gastro-Intestinal Hemorrhage.**—Boas remarks that the benzidin test for occult bleeding is so sensitive that the findings are liable to be misleading; even having eaten a little meat, days before, may lead to a positive response. On the other hand, the unmodified guaiacol test is not sensitive enough. Midway between them stands the phenolphthalein test which he commends to the general practitioner as more reliable than either while it

is extremely simple, the reagents used are durable, and the color reaction is so pronounced that it is impossible to mistake it. He tabulates the comparative findings with the three tests and describes the technic. The stool is rubbed up in water till it forms a thin fluid. Into this a little acetic acid is stirred; ether is then added, and the reagent glass is slowly moved to and fro until the contents are well mixed. The ether is then decanted into another reagent glass and 20 drops of the phenolphthalin reagent are added, the whole is shaken and then 3 or 4 drops of hydrogen dioxid are added. In the presence of blood the phenolphthalin is oxidized into phenolphthalein and as it is in an alkaline medium the fluid turns pink. With considerable blood the pink tint persists for some time, with very little blood the pink tint soon fades away. The reagent is made by dissolving 1 gm. of phenolphthalein and 25 gm. of potassium hydroxid in 100 gm. water and reducing with 10 gm. of pulverized zinc. The resulting red fluid is stirred or shaken over a small flame until it is entirely decolored, the phenolphthalein being reduced to phenolphthalin. It is then filtered when it is ready for use and keeps indefinitely. With much admixture of blood the reaction is pronounced even without addition of hydrogen dioxid. No meat should be eaten for a few days before the test.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, CVIII, Nos. 1-2, pp. 1-220

89 Extradural Surgical Anesthesia. A. Läwen.
90 *Origin and Treatment of Ischemic Muscular Contracture and Gangrene. B. Bardenheuer.
91 Plastic Technic After Amputation of Breast. L. Heidenhain.

90. **Treatment of Ischemic Contracture and Gangrene.**—Bardenheuer devotes about 155 pages to his study of the origin and treatment of these conditions illustrating the various points by examples from his own experience. The prognosis depends, he says, on the period in which the ischemic myositis or contracture is discovered and suitable treatment applied. This should include search for the central, causal, retromuscular or retrofascial hemorrhage probably responsible for the trouble or measures to prevent its development, treatment of the primary acute ischemic myositis and means to correct the resulting contracture. The conditions are graver in different regions.

Medizinische Klinik, Berlin

January 8, VII, No. 2, pp. 45-84

92 Gonorrheal Pyosalpinx. E. Opitz.
93 Chronic Intestinal Catarrh. (Leitsätze über die Diagnose, Pathogenese und Aetiologie des chronischen Darmkatarrhs.) E. Schmidt.
94 Functional Tests of the Stomach in General Practice. (Soll der praktische Arzt diagnostische Magenfunktionsprüfungen [illegible]hwend.
95 * [illegible] Syphilis. (Serodiagnose der Syph- [illegible] von Natr. glycochol. unter Heranziehung des Cholesterins.) O. Herman and A. Perutz.

95. **Improved Serodiagnosis of Syphilis.**—Herman and Perutz having simplified the precipitation test devised by Elias, Neubauer, Porges and Salomon report positive results in 108 out of 134 cases of syphilis, while the Wassermann reaction was positive in only seventy-two out of 102. Their test consequently gave 4 per cent. more positive reactions than the Wassermann technic. In eighty-nine control cases traces of precipitation were observed in only a single instance, the findings in all the other cases being negative. They commend their modification as practically reliable, much simpler than the Wassermann test and as destined to wide application in general practice for the serodiagnosis of syphilis. The technic requires only a little blood, which is allowed to stand for a few hours. The clot is then detached with a platinum wire, the serum is centrifugated, the sediment removed, and the serum is then inactivated by heating exactly to 65 C. for half an hour in the water bath. The serum should not be powerfully hemolytic. The reagent is a mixture of 2 gm. sodium glycocholate with 0.4 gm. cholesterin and 95 per cent. alcohol to 100 c.c. This mixture is diluted with distilled water, 1 to 20. The second reagent is a freshly made 2 per cent. aqueous solution of sodium glycocholate. To 0.4 c.c. of the serum are added 0.2 c.c. of the twenty times diluted reagent 1, and 0.2 c.c. of the 2 per cent. sodium glycocholate solution, and the whole is well shaken. The test tube is then plugged with cotton and allowed to stand quietly at room temperature for twenty-four hours. After twenty-four hours distinct precipitation indicates a positive reaction, but if the fluid is merely turbid with fine flakes and no precipitate thrown down the reaction is regarded as negative. The findings in 223 cases are tabulated for comparison, the nonsyphilitic cases showing, with a single exception, a constantly negative reaction.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 3, pp. 311-510. Last indexed January 28, p. 312

96 Drumstick Finger [illegible]urysm. (Entstehung der einseitigen [illegible] bei Aneurysmen der Arteria subclavia.) [illegible]
97 *Inflammation of Adipose Capsule of Kidney. (Entzündung der [illegible]s and C. Rammstedt.
98 *Tuberc[illegible] (Ueber einen autoptisch verif[illegible] Gelenkrheumatismus.) E. Melchior.
99 *Syphilitic Spondylitis. (Syphilitische Wirbelentzündung.) H. Ziesché.
100 Surgical Treatment of Intestinal Syphilitic or Cancerous Stenosis. H. Schmilinsky.
101 Hyperplastic Muscle and Salivary Gland Disease. (Speicheldrüsenerkrankung und Myopathie.) S. Schoenborn and K. Beck.
102 *Postoperative Paralysis of Stomach. (Postnarkotische Magenlähmung.) A. Payer.
103 Histology and Functions of Gastric Mucosa. (Magenschleimhaut, insbes. bei chronischen Erkrankungen des Magens.) J. E. Schmidt.

97. **Inflammation of Adipose Capsule of Kidney.**—Bussenius and Rammstedt remark that the syndrome resulting from mere congestion and infiltration of the adipose capsule has not been much studied. Soldiers are especially liable to it as result of contusions, kicks, riding unruly horses, lifting heavy weights, etc. Sometimes the syndrome comes on insidiously but more often it comes on abruptly with chill and high fever. The temperature rises in a series of peaks, then remains continuous for a day or so, then becoming remittent with low morning and high evening curves. Even a difference of 2 C. (3.6 F.) between morning and evening temperatures is not conclusive of suppuration. The pulse-rate is generally faster than the temperature would warrant, and sweats may also be observed. The digestive apparatus usually shares in the disturbance, and constipation follows after a period of diarrhea in some cases. Sudden pain is characteristic, not always in the kidney itself, but below, and pressure increases the pain. It may radiate to the stomach, bladder, cecum, perineum or genitals. The chief tender point is found just below the twelfth rib and pressure here generally brings on the pain anew, as also deep breathing, coughing and moving the trunk. There is some swelling of the lumbar region unless the trouble is in the front of the capsule. Seven cases are reported in detail. They show that the patients can recover under medical measures alone in some cases. The general condition is the criterion; if the patient does not seem to be growing worse, expectant treatment is justified. Repeated exploratory punctures are useful, and the hot-air apparatus frequently renders good service. In the authors' cases, potassium iodid seemed to have a decided influence in promoting absorption of the products of the inflammation. Under these measures three of the patients recovered entirely, although slowly, but in the other cases the process passed into a suppurative stage, and recovery followed evacuation of the pus. They advise operative treatment, even if no pus is evident, if the general condition seems to be growing worse and the patient weaker. The pus may make its way into the intestines, bladder or ureter and a spontaneous cure may thus be realized.

98. **Tuberculous Articular Rheumatism.**—Melchior remarks that only four cases have been published to date in which the tuberculous nature of the articular rheumatism has been established beyond question, and to this list he now adds a fifth. The patient was a girl of 19 with glandular tuberculosis as a child and later a tuberculous process in the lower jaw compelling total resection in 1909. Twelve days after the operation, moderate fever developed with multiple acute swelling of joints, the syndrome deceptively resembling that of acute articular rheumatism except for the relatively low fever, the slight painfulness of the lesions in the joints, their torpid character and the absence of the sweats characteristic of ordinary acute articular rheumatism. Tubercle bacilli were found in the blood. The joint lesions seemed to subside

spontaneously so that by the end of three months nothing was left of them except a slight thickening of one knee. The patient died in a few months from amyloidosis, independent of the joint processes. Necropsy revealed tuberculous nodules in the synovial membranes of the joints which had been involved. During life inoculation of animals had been negative, showing that the presence of tubercle bacilli in the synovial membrane does not necessarily imply their presence in the effusion in the joint.

99. **Syphilitic Spondylitis.**—Ziesché reports a case and reviews recent literature on this subject, tabulating the details of eighty-six cases he has found on record. The affection is generally considered as unusually malignant but this, he thinks, is because it is not recognized until it is in an advanced stage. In the case of a child the condition received treatment early and improvement was soon realized. In this case there was not the slightest reason for suspecting syphilis; the first sign of trouble was a gibbus in the region of the first and second lumbar vertebræ. The tuberculin tests were negative but the Wassermann reaction was positive although no swollen glands could be discovered. Investigation disclosed syphilis in the child's nurse. Mercury and iodid brought rapid improvement. Ziesché is convinced that syphilitic spondylitis is more frequent than generally suspected; in the mild cases the lesions heal and nothing is known of them. In this compilation the age was mentioned in fifty-three cases, and 28 per cent. of the patients were between 20 and 40; 22.7 per cent. under 10, and 11.3 per cent. between 50 and 60. The cervical vertebræ alone were involved in sixty-one of the eighty-eight cases; the thoracic in twelve; both in one, and the lesions were diffuse in four cases. In over 41 per cent. only one vertebra was affected, two vertebræ in over 28 per cent., and four in 5 per cent. In eight of the sixty cases of syphilis of the cervical vertebræ death occurred suddenly. Thirty-eight of the patients recovered under appropriate measures although left with more or less functional disturbance. Mercury and potassium iodid should be given in large doses. he says, even transient salivation should not be allowed to interrupt the treatment, and the iodid should be continued for a time after apparent recovery.

102. **Acute Dilatation of the Stomach After General Anesthesia.**—Payer states that a fatal termination occurred in over 53 per cent. of the cases of this trouble in the literature and his own experience. The diagnosis in time is more important here than in almost any other affection, he emphasizes, as change of position is the only and the efficient cure. The trouble has been called by twenty-one various names, including pseudo-ileus, mesenteric incarceration of the bowel and also acute paralysis of the stomach. The initial shock, the increased peristalsis and antiperistalsis and secondary acute dilatation of the stomach form the general description of the syndrome, but Payer is convinced that the trouble is in reality a primary paralysis of the stomach from the toxic action of the anesthetic. For several years he has been examining the stomach functioning before and after operations under general anesthesia, and he found more or less of a tendency to paralysis of the stomach in nearly every instance. This paresis is accompanied by gastrorrhea and each in turn aggravates the other; if the patient lies on his back serious trouble may follow while if he is turned on his right side the stomach contents flow spontaneously out of the stomach. Atony of the stomach is almost invariably evident as the patient rouses from the anesthetic; sometimes the lower margin of the stomach will be found below the umbilicus, but this atony generally subsides so that no trace is left after from twelve to twenty-four hours. Postoperative vomiting is directly connected with this atony; in every case in which it persisted longer than this, the atony also persisted. The critical period is from the third to the fifth day, when a more liberal diet is allowed. Even although there may be no symptoms, investigation will show how the lower margin of the stomach drops lower, the effect being more pronounced the shorter the interval since the anesthesia. Errors in diet have a marked influence on the development of the paresis, and children are especially liable to it. Even a week after the anesthesia, acute dilatation of the stomach and distention may occur. Drainage of the peritoneal cavity is also liable to affect the stomach and induce atony, as he observed in two striking cases—an appendicular abscess in a child and a liver abscess in a man. Payer now makes a point of having the patient lie on the right side if there is any tendency to vomiting after from twelve to twenty-four hours. This generally answers the purpose but if disturbances persist he gives a chamomile tea enema, with the patient still lying on the side, repeating the enema frequently at need, giving nothing by the mouth. In very severe cases the knee-chest position was the only means of final relief; this never failed. He never had to resort to lavage of the stomach. During the last two years he has been giving oxygen freely in connection with the anesthesia, to paralyze the toxic action of the chloroform, and imagines that he has noted a favorable influence on the gastric paresis. This postnarcotic gastric paralysis, as he calls it, has been observed after the most diverse operations. He lists also the predisposing factors as they have been recorded in the literature and also the factors that proved the last straw. The latter list includes overfilling of the stomach with food or fluids, the toxic action of veronal, or of scopolamin, dread of the operation, abdominal straining, compression of the abdomen by a plaster cast, tamponing the abdominal cavity (Nakahara), compression of the duodenum by tampons, wandering kidney or liver. drastic purgative (Jacoby), and saline purges, increasing the stomach content by osmosis (Selby).

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 8, pp. 383-446. Last indexed January 7, p. 82

104 *Formula for Estimating General Condition of Infants. (Formel zur Beurteilung von Säuglingen in bez. auf ihren Allgemeinzustand.) J. Bauer.
105 Metabolism of Infants with the Exudative Diathesis. F. Steinitz and R. Weigert.
106 Lessening of Sensibility to Opium with Increasing Age of Laboratory Animals. (Empfindlichkeit verschieden alter Tiere gegen die Opiumalkaloide.) E. Döbeli.
107 Advantages of Large Doses of Antitoxin in Diphtheria. I. Wickman.
108 *After-History of Children with Eczema. (Schicksal von Ekzemkindern.) E. Moro and L. Koll.
109 Leukemia with Skull Tumor in a Year-Old Child. O. Herbst.

104. **Formula for Estimating General Condition of Infants.**—Bauer thinks that a good estimate for comparison can be obtained by dividing the weight in grams by six times the length in millimeters, plus three times the age in days. The formula for this is: $W \div 6(L+3D) = X$. Weight ÷6(Length +3(Age in) days)=the unit of health.

108. **After-History of Children with Eczema.**—Moro and Koll have traced the fate of sixty-three boys and thirty-seven girls between 3 and 11, known to have suffered from chronic eczema during infancy. The majority were found apparently healthy. No special tendency to the rheumatic or gouty diathesis could be discovered in these children or their parents and no evidence of special overfeeding. Another point brought out is the frequency of spasmophilic phenomena in infants with the exudative diathesis. The coincidence is too striking to be merely casual; it seemed rather as if both were clinical manifestations of one and the same diathesis. The total findings are tabulated under various headings and compared with similar data from control groups.

Münchener medizinische Wochenschrift

January 10, LVIII, No. 2, pp. 65-120

110 Chemical Composition of the Nucleus of the Cell. (Chemische Beschaffenheit des Zellkerns.) A. Kossel.
111 *Gastrospasm. R. Waldvogel.
112 Hemagglutinin Reaction in Serum Sickness. F. Bauer.
113 *Premonitory Symptoms of Puerperal and Postoperative Thrombosis and Embolism. H. Michaelis.
114 Salvarsan in Treatment of Syphilis of the Nervous System. H. Marcus.
115 Salvarsan in Syphilis. Favento.
116 Hectine in Syphilis. C. Ravasini.
117 *Direct Massage of the Heart with Apparently Fatal Chloroform Accident. (Erfolgreiche direkte Herzmassage bei Narkosenscheintod.) A. T. Jurasz.
118 Lead P[illegible] Glazed Earthenware Preserve Jars. ([illegible] irdenes Topfgeschirr.) J. Wengler.
119 [illegible] of Natural Radio-Active Mineral Water. F. Hirz.

111. **Gastrospasm.**—Waldvogel is convinced that true gastrospasm is a very frequent if not the most frequent affection of the stomach, far more common than the often mistakenly

diagnosed gastric ulcer, while the symptoms resulting from the gastrospasm are more constant than those from altered secretion. The prognosis of gastrospasm is favorable under appropriate treatment, that is, sedative measures to reduce the irritability of the innervation of the stomach and of the nervous system in general. He differentiates the condition by the level of the lower margin of the stomach after the patient has taken an effervescing mixture: 4 gm. of sodium carbonate and 4 gm. of tartaric acid, each in 100 c.c. of water. He gives the mixture two or three hours after breakfast or four or five hours after dinner and has the patient recline. Finger percussion from the nipple downward shows that the inflated stomach under these conditions, in a healthy and not excited person, always reaches to the umbilicus. The findings are much more reliable with this test, he thinks, than with bismuth and radiography. He accepts gastrospasm when with the complaints of oppression, pain and eructation of pure air without odor or taste, the lower margin of the stomach is found to be a handbreadth above the umbilicus and only two or three fingerbreadths below the costal arch. The contraction of the stomach is most marked in the region nearest to the umbilicus. In some cases, the entire effervescing mass was explosively vomited—a further confirmation of the assumed gastrospasm in the absence of palpable stomach lesions. The gastrospasm is generally observed with clinical pictures in which spasms of all kinds are common. Lead poisoning is a frequent cause, and also abuse of tobacco, arteriosclerosis of the abdominal vessels and uremia. But chief of all causes is general neurasthenia, and various signs of nervous excitability and abnormally low nervous threshold generally accompany the gastrospasm, such as tremor of the fingers and tongue, accelerated pulse, insomnia, etc. Gastrospasm on the other hand is seldom encountered with hysteria. He adds that in one case the patient dropped tobacco completely after long abuse and a condition of atony of the stomach followed which lasted for several weeks.

113. Premonitory Signs of Thrombosis.—Michaelis had a fatal case of pulmonary embolism in the first week he set up practice for himself; this was followed by two non-fatal cases of embolism in less than six months and five others in two years. Since then he has not had thrombosis develop in any case and he is convinced that his careful prophylactic measures now are responsible in large part for the absence of this serious puerperal and postoperative complication. It always gives warning, he declares, in the form of a very slight rise in temperature, possibly transient and unnoticed unless the temperature is taken four times a day and the thermometer left in place for fifteen minutes at least. This alone permits the recognition of a temperature above 37.5 C. (99.5 F) at any time during the day. He does not say, of course, that every subfebrile temperature is an index of the onset of thrombosis, but that anything over 37.5 C. suggests the necessity for caution and close supervision of the patients, guarding them against any violent movement, any excitement or fright, and keeping the bowels loose with oil injections, and a mild laxative and suitable diet. If the patient is allowed to get up early, heedless of the warning of the slight subfebrile temperature, danger looms large. He is convinced that these measures and keeping the patient in bed for a week as quiet as possible, have contributed in no small proportion to the smooth recovery of many of his patients showing slight transient subfebrile temperature, thus tiding them past the danger stage.

117. Direct Massage of the Heart in Apparently Fatal Chloroform Accidents.—Jurasz reports another case in which the patient's heart and lungs ceased functioning suddenly during a long operation; by prompt massage of the heart, with the hand introduced in the laparotomy wound and squeezing the heart through the diaphragm, the vital functions were restored. The patient was a woman of 50 whose pylorus was being resected for cancer. All went well for an hour, but as the duodenal stump was being attended to, the apparently fatal accident occurred. Artificial respiration was kept up at the same time as direct massage was applied to the heart and oxygen pumped into the lungs. The heart showed the effect of the massage in two minutes and the patient began to breathe spontaneously. The massage and artificial respiration were then suspended, but immediately the syncope came on again. The artificial respiration and heart massage were then resumed and in a minute the vital functions began again. The operation was then concluded under a few whiffs of ether, with no further disturbance. The pulse at the close was small but regular and recuperated under a few injections of camphor so that no further stimulants were necessary. Eight minutes in all elapsed between the first stoppage of the heart and its definite revival and no further disturbance in its functioning occurred although the operation was continued and more of the anesthetic given. Jurasz has found records of sixty-four cases of direct massage of the heart in the literature. The patients were resuscitated in two out of the twenty cases in which the massage was done through the chest wall and in eleven of the twenty-six cases in which the heart was massaged through the diaphragm. None of the patients survived when the hand was introduced through an opening made for it in the diaphragm. The total recoveries thus number thirteen or 23.3 per cent. of the cases, but temporary success was obtained in fifteen additional cases. He advises incising the epigastrium in five minutes at latest after arrest of the heart functioning and seizing the heart between the thumb and two fingers, to squeeze it rhythmically about sixty times a minute, supplementing this with artificial respiration and insufflation of oxygen if possible. The massage and artificial respiration should be kept up for a time after the first spontaneous movements. It is sufficient to sterilize the field with tincture of iodin, massaging with the gloved hand.

Therapeutische Monatshefte, Berlin

January, XXV, No. 1, pp. 1-80

120 *Digitalis in Arrhythmia. (Digitaliswirkung bei unregelmässiger Herztätigkeit.) E. Edens.
121 Action of Digitalis on the Isolated Vessel Walls. R. Gottlieb.
122 Action of Strophanthin on the Heart. R. Gottlieb.
123 *Mode of Action of Certain Diuretics. E. Meyer.
124 Treatment of Furuncles. A. Schüle.
125 Treatment of len.
126 Radiotherapy
127 Serotherapy. Heilsera.) H. Risel.
128 Salvarsan in

120. Action of Digitalis in Arrhythmia.—Edens states that the newer methods of examining the pulse and heart action have only strengthened our confidence in digitalis. When the drug fails to act—which used to be ascribed to impurities in the drug—we now know that it is because the heart affection is of a kind which is not influenced by digitalis. This very failure is proving a most important aid for diagnosis and prognosis, as he illustrates by a number of case-reports and tracings. The chief element in the action of digitalis, possibly, is the promotion of the circulation through the coronaries by the lengthening of the diastole and the better filling of the arterial system. When mechanical obstacles, such as aortic insufficiency, interfere or when the acceleration of the pulse is the result of nervous influences rather than of insufficiency of the heart muscle, then digitalis is liable to fail. The drug is thus liable to render good service, he asserts, in differentiating the various kinds of extrasystoles and in improving the contracting power of the heart. It may seem to induce a bigeminus rhythm of the entire heart but under its continued administration the rhythm alters so that the contraction of the auricle occurs simultaneously with that of the ventricle systole while the interval between the first and second systole persists unmodified. These are the cases described by Hering as "pseudo-alternans," and Edens has encountered five such cases; the digitalis induced bigeminus of the ventricles while retarding the auricle beat.

123. Action of Diuretics.—Meyer reports experiences which show that the improvement in the circulation liable under digitalis may be followed by very much increased elimination not only of urine but of sodium chlorid in the urine. In a case of extreme dropsy with only 360 c.c. of urine, under digitalis the urine increased in two days from 360 to 3,300 c.c. and the sodium chlorid from 2.9 to 26.4 gm. A similar remarkable diuretic action was observed in a case of tuberculous polyserositis under calomel and digitalis, the figures being almost identical with those in the first case. He explains this action of calomel as due to the absorption of the fluid effused into the intestines under the influence of the calomel.

Therapie der Gegenwart, Berlin

January, LII, No. 1, pp. 1-48

129 Physical Measures as Aid in Treatment. (Ueber Gymnastik in der häuslichen Praxis.) A. Goldscheider.
130 *Inhalation of Superheated Air in Bronchitis. (Behandlung der Bronchitis und verwandter Zustände mit trockner, heisser Luft.) A. Schmidt.
131 *Infant Feeding in Health. (Ernährung des gesunden Säuglings.) M. Pfaundler.
132 *Resection of Spinal Nerve Roots for Spastic Paralysis. O. Foerster.
133 *Gastric Surgery. (450 in drei Jahren ausgeführte Magenoperationen.) H. Küttner.
134 *Treatment of Uterine Hemorrhage. B. Kroenig.
135 Politzer's Air Douche During Deep Inspiration. (Neuere Modifikation meines Verfahrens zur Wegsammachung der Eustachschen Ohrtrompete.) A. Politzer.

130. **Treatment of Bronchitis by Dry, Hot Air.**—Schmidt has been systematically applying this measure for a number of years and has found it useful in simple chronic catarrhal inflammation of the larynx and bronchi; it is less effective in emphysema bronchitis and bronchiectasia, and is unreliable in tuberculous pulmonary and laryngeal processes. The patients inhale the superheated air through a tube with removable glass mouthpiece; the air is filtered through cotton, dried by passing through calcium chlorid and heated in a small chamber inside a large, asbestos-coated stove heated by gas or electricity. A thermometer is mounted in the tube near the mouth. The patients experience great relief from the dry hot air thus inhaled through the mouth and expelled through the nose and in many cases the bronchitis seemed to be permanently cured.

131. **Infant Feeding.**—Pfaundler suggests, as a readily remembered formula for a healthy infant, taking cow's milk to one-tenth of its weight in grams, adding carbohydrates to one-hundredth of its weight, and water to bring the whole to 1 liter; the whole is divided into five portions and as much of each portion given as the child drinks with relish. This formula is useful from the second to the sixth month; and may be modified according to the child's individual digestive functioning. He prefers for the carbohydrate up to the fourth month sugar and oatmeal gruel, after the fourth month a 2 to 4 per cent. wheat, flour or barley gruel.

132. **Resection of the Posterior Nerve Roots for Spastic Paralysis.**—Foerster states that this operation has now been done in forty-five cases to date, including twenty-seven of Little's disease. The best results have been obtained in Little's disease, a large number of totally bedridden patients having been restored to their feet. Satisfactory results have also been obtained in a case of tuberculous spondylitis, in one of a traumatic transverse lesion of the spinal cord, and in spastic paralysis of the legs following hydrocephalus or encephalitis in childhood. The results were disappointing in the five cases of multiple sclerosis. In five cases of spastic paralysis of the arm after hemiplegia good results were obtained in three but only moderate benefit in a fourth. A fifth patient whose operation dates from eight weeks is already beginning to use his arm which had been totally paralyzed before the resection of the posterior roots. The majority of the patients have thus been benefited by the operation. The principles and technic were described in The Journal, Oct. 16, 1909, page 1342.

133. **Operations on the Stomach.**—Küttner comments on the exceptional prevalence of gastric cancer in southeastern Germany; in the last three years the surgical clinic at Breslau in his charge has had 426 patients with certain gastric cancer and 258 suspects, with 130 with non-malignant surgical gastric affections. About 30 per cent. of the cancer patients had suffered for years from stomach trouble while the others had noticed gastric symptoms only for less than six months. In 10 per cent. of the cases there had been *no* pain; in 20 per cent. no vomiting; in 7 per cent. no loss in weight—usually the patients had lost from 20 to 30 pounds. In a very few cases there had been nothing to attract attention to the stomach, the patient complaining merely of lassitude and loss of weight. In 31 per cent. the palpation findings were negative. There was no hydrochloric acid, or merely traces, in 73 per cent.; lactic acid was noted in 57 per cent., and traces of bleeding in only 61 per cent. In a few patients both the motor and secretory functioning of the stomach seemed to be entirely normal. He performed a radical operation in 102 cases, using the Billroth II technic and Murphy button, silk sutures and plastic reenforcement of points exposed to special stress. The immediate mortality was 24 per cent. mostly from defective suturing or complications on the part of the lungs, pneumonia or cachexia. To date, after an interval of from one to three years, 37.5 per cent. of the patients are still living; the proportion of cured after three years was 30 per cent. in his previous series. Nearly half of the patients who had gastro-enterostomy done for a callous gastric ulcer have succumbed since to gastric cancer, and only 16 per cent. are still in good health of those whose condition is known.

134. **Treatment of Obstetric and Gynecologic Hemorrhage.**—Among the other measures described, Krönig expatiates on the success of compression of the abdominal aorta by a tourniquet and pad applied to the artery. This seems to answer the same purpose as the Momburg technic while it does not have the unpleasant by-effects of the latter, he says. The aorta compressor devised by Gauss has been applied in 100 cases and has proved eminently useful: its unwieldiness however, gives the Momburg technic the advantage outside of an institution. He comments on the transformation in the conception of uterine hemorrhage in the last few years, the defective functioning of the ovaries now being incriminated rather than the uterus. Treatment therefore is directed more to the ovaries and curetting of the uterus is regarded now as a mere symptomatic measure, no longer causal treatment. The aim should be to act on the ovaries directly or indirectly by way of other ductless glands, possibly by organotherapy, or radiotherapy. The Roentgen rays have shown great efficacy in this respect, and are proving, he says, a powerful means of treating climacteric hemorrhage, menorrhagia during the forties and in hemorrhage with uterine myomas. Over seventy patients have been given systematic radiotherapy for myoma and, with the exception of two cases in which the course was not completed, all the patients were clinically cured and the growth of the myoma arrested or it has entirely retrogressed. The Roentgen-ray treatment has superseded operative measures at his clinic as it has so many advantages over the latter and the disturbances from the Roentgen menopause are comparatively insignificant as it is brought on so gradually. The only objection is the expense. He remarks in conclusion that no progress seems to have been realized in late years in the management of uterine hemorrhage from cancer, gonorrhea or tuberculosis. With hemorrhages at puberty and chlorosis, radiotherapy is not possible on account of danger of injury of the ovaries; he has obtained excellent results however in such cases from sweating procedures in addition to iron, keeping the patients in bed for three or four weeks. Even when all other measures had failed this treatment proved successful.

Virchows Archiv, Berlin

December, CCII, No. 3, pp. 321-474

136 Behavior of Plasma Cells and Vessels in Lymph Glands After Severing the Nerves. L. Martinotti.
137 Chronic Changes in Heart Valves. W. Dewitzky.
138 Case of Tuberous Sclerosis and Multiple Tumors in the Kidney. J. Kirpicznik.
139 Interstitial Connective-Tissue Cells in Testicle and Their Atrophy. (Zwischenzellen und Hodenatrophie.) K. Koch.
140 Giant Cells in Amyloid Organs. (Vorkommen von Riesenzellen [illegible] und die Beziehungen zwischen dem [illegible] der Amyloidose.) T. Tsunoda.
141 [illegible] ation. (Versuch einer Theorie der [illegible] auf Grund von Beobachtungen am [illegible] Kaninchens und von histologischen Untersuchungen nach Unterbindung des Ausführungsganges.) M. Natus.
142 Red Blood Corpuscles in the Epidermis. H. Josephy.

Wiener klinische Wochenschrift, Vienna

January 12, XXIV, No. 2, pp. 43-82

143 *Obese Children. (Fettkinder.) R. Neurath.
144 Pulmonary Distomiasis. (Zur Kenntnis der Lungendistomumkrankheit.) Y. Tanaka.
145 *Causes and Treatment of Temporary Partial Amaurosis. [illegible] seine Behandlung.) A. Pichler.
146 [illegible] Peritonitis with Adhesions. W. Denk.
147 [illegible] of Hysteria and Allied Organic Nervous Disease. Z. Bychowski.
148 *Salvarsan in Syphilis. (Bemerkungen zur Ehrlich-Debatte.) E. Finger.

143. **Obese Children.**—Neurath discusses pathologic obesity in the young; it is characterized by the local preponderance of the accumulations of fat in the subcutaneous tissue and by the association with other physical anomalies. He describes a case in which a boy of 10 weighed 36.8 kg. (about 80 pounds) while only 109 cm. (43 inches) tall. The child measured 83 cm. (33 inches) around the waist and 53 cm. (21 inches) around the head, and complained of disturbances in vision in the evening, headache and dizziness. A course of thyroid treatment had a marked influence on the obesity. The facts observed in this case compared with others like it in the literature suggest, Neurath thinks, a tendency to hydrocephalus with compression of the hypophysis from the distention of the third ventricle interfering with the functioning of the hypophysis. The obesity seemed to have developed suddenly after scarlet fever three years before, and Goldstein has reported three cases which he explains as hypophysis obesity following a serious meningitis. Babonneix has also reported six cases of obesity in children; all were remarkably short, and in all the head was unusually large. The obesity in one had followed scarlet fever. Neurath has also reported another case in which hydrocephalus in a child caused symptoms suggesting a cerebellar tumor plus obesity. The symptoms finally subsided, confirming the assumption of hydrocephalus without a primary tumor, the distention of the third ventricle downward accounting for the symptoms observed. The obesity resulting from this cause is characterized especially by accumulations of fat in the abdomen, buttocks and chest, unusually short stature, and sometimes by symptoms of pressure on the cerebellum. In two other cases the obese children had epileptiform seizures; the syndrome was of the type described by Tandler as eunuchoid obesity, the result of a functional incapacity, hypoplasia of the interstitial tissue of the ovaries or testicles, the internal secretion regulating the secondary sexual characteristics and the course of ossification. The epileptiform convulsions suggested an organic affection of the brain apart from true epilepsy. Neither of the children had reached puberty.

145. **Transient Partial Blindness.**—Pichler suffers himself from recurring scintillating scotoma and his study of the subject shows that the attacks are not only analogous to migraine but are amenable to the same treatment and prophylactic measures. There seems in most cases to be a hereditary predisposition which is enhanced by any cause weakening the nervous system or inducing vasomotor disturbances. The partial blindness itself we seem to be unable to influence but the succeeding headache can be warded off or mitigated by sedatives. If the patient feels the slightest sign of an impending attack, immediate cessation of work, lying down for half an hour, and eating a light lunch will often dispel the attack. Pichler's attacks are generally preceded by a bright spark floating before his eyes; if he is able to drop work at once and lie down for half an hour there is no further trouble, but if he keeps at work the typical attack and headache follow. He found marked neurasthenia in thirty-nine of his fifty-three patients, and about the same number stated that the attacks came on after long-continued close eye-work. In treatment the main point is to discover the actual underlying cause in each case and by hygiene and suitable measures keep the vital functions in good order.

148. Salvarsan.—Professor Finger is chief of the clinic for skin diseases and syphilis at the university of Vienna, and he insists that salvarsan should not yet be placed in the hands of the general practitioner as it has not been sufficiently studied in respect to the technic of administration, dosage and indications, especially as he and others have observed injurious by-effects from the drug. It is immaterial, he continues, for the practitioner to know how these by-effects can be explained. It is not enough to assure him that the by-effects and fatalities are not yet positively known to be the work of the new drug. What he must be assured before the drug is offered for general use is that the untoward effects sometimes observed are certainly not the work of the drug which he is being urged to use. Besides, Finger adds, even Ehrlich himself admits that one of the fatalities recorded was the direct consequence of the administration of salvarsan. [The injurious by-effects to which Finger refers were mentioned in THE JOURNAL, January 7, page 83, in an abstract of his article on the subject.] He states that similar by-effects have been observed in a number of other cases since; the clinical picture is practically the same in all. He refrains from comment on principle in order not to bias his judgment of the drug which has certain undeniable advantages, wishing to regard even the by-effects from the optimistic rather than the pessimistic standpoint. He comments further on Igersheimer's conclusions that salvarsan cannot harm a healthy eye because it seems to cure syphilitic eye lesions; this assumption does not necessarily follow. The predilection for the drug may vary in the healthy and the diseased optic nerve. Igersheimer's further statement that large quantities of arsenic were refound in the animals' eyeballs in his experimental research, even although no appreciable harm resulted certainly suggests caution. The frequency of the occurrence of by-effects with salvarsan cannot be compared with those from mercury as each new day may bring new developments while the matter is practically settled for mercury. Finger also comments on Martius' statement that extensive necrosis at the point of the subcutaneous or intramuscular injection was observed in every one of the twelve cadavers he had opportunity to examine two or three weeks after injection of salvarsan. [Martius' communication was summarized in THE JOURNAL, February 4, page 388.] Finger also calls attention to the fact that a distinction must be made between the frequency of syphilis as a cause of eye disturbances and the frequency of eye disturbances in the course of syphilis. Syphilologists know of the eye disturbances only from the complaints of the patients, while the ophthalmologists discover disturbances which escape the notice of the attending physician.

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LXVII, No. 3, pp. 603-799. Last indexed February 4, p. 389

149 Utilization of Anterior Wall of Cervix in Operation for Vesicovaginal Fistula. O. Küstner.
150 A Young Placenta Implanted on Uterine Isthmus and Cervix. R. T. Jaschke.
151 Retrogression of Lutein Cystomas After Hydatidiform Mole. E. Santi.
152 Pseudotumor in Small Pelvis from Contraction of Pyriform Muscle. (Seltenes Palpationsphänomen im kleinen Becken.) A. Mayer.
153 Rudimentary Solid Uterus Bipartitus with Solid Vagina. H. Küster.
154 *Tuberculosis of the Placenta. J. Novak and F. Ranzel.
155 *The Cicatrix After Cesarean Section in Respect to Later les korporealen und cer- Chancen bei späteren F. A. Scheffzek.
156 Ec ction. M. Semon.

154. **Tuberculosis of the Placenta.**—Novak and Ranzel report ten cases of tuberculous placenta; tubercle bacilli were found in the placenta in seven. They review the history of this subject and the conclusions that might be drawn from their and others' findings in regard to the marriage of tuberculous girls and sterilization of tuberculous married women.

155. **The Cicatrix After Cesarean Section.**—Scheffzek has had spontaneous rupture occur after Cesarean section at a previous pregnancy in two cases in his experience. In ten other cases labor in women who had had Cesarean section done in former years was abnormally prolonged; in one case labor lasted for sixty-eight hours. In five cases Cesarean section had to be done anew and in four women premature delivery was artificially induced but version and forceps were required to terminate it. His experience shows that the cicatrix of the extraperitoneal Cesarean section is far stronger than that of the classic technic. Section in the body of the uterus necessarily impairs the child-bearing faculty much more than the extraperitoneal technic. Even when there were suppuration and infiltration during the healing of the extraperitoneal section yet there was no fixation of the uterus or displacement from retraction of the cicatrix. The extraperitoneal technic has been applied in seventy-one cases to date and it is so much simpler, he thinks, than the classic technic that he regards it as applicable by the general practitioner even under primitive conditions. He has frequently operated in this way without an operating table, in a room hastily arranged for the purpose, and obtained the same favorable results as in a well-equipped clinic.

Zentralblatt für Chirurgie, Leipsic

January 14, XXXVIII, No. 2, pp. 33-72

157 *Ligation of Veins for Suppurative Portal Thrombosis. [illegible]iger Pfortaderthrombose nach [illegible]

158 *Gl[illegible] O. Franck.

159 *Operative Treatment of Stenosis.* F. A. Kehrer.

157. **Ligation of Veins in Suppurative Thrombosis of the Portal Vein.**—The Journal, Aug. 28, 1909, page 753, mentioned the successful outcome of ligation of the mesenteric veins in a case of portal thrombosis following appendicitis. Sprengel recently encountered a case of the kind and applied the same measure in treatment. His patient was a man, aged 29, with a first attack of appendicitis with perforation. Sprengel recently encountered a case of the kind and applied two days after the operation had been first proposed and found then that the ascending colon had no well-developed mesentery and that the retroparietal peritoneum was exceptionally fat. These facts may have been responsible for the failure in this case. The ligation did not fully answer its purpose and the pylephlebitis continued its fatal course, involving even the finest ramifications of the portal vein. A single case of failure is not decisive, however, but Wilms' successful case is still the only one on record.

158. **Glycerin as a "Laxative" for the Bladder.**—Franck has had scarcely a single failure since he has made a practice of injecting from 15 to 20 c.c. of a 2 per cent. boric acid-glycerin into the bladder without attempting to draw the urine. He injects it without a catheter, with force enough to send it past the sphincter at the outlet of the bladder. About 10 c.c. escapes from the urethra but enough gets into the bladder to answer the desired purpose, stimulating the "peristalsis" of the organ so that spontaneous evacuation of urine follows in twenty minutes at most. This is now his routine practice after all abdominal operations and he has found it useful also in paralysis of the bladder from mechanical and nervous causes. Even strictures and enlargement of the prostate are transiently favorably influenced by this liquid catheter, as he calls it.

Zentralblatt für Gynäkologie, Leipsic

January 14, XXXV, No. 2, pp. 49-96

160 *Extradural Injections for Pain in Sacral Region. (Epidurale Injektion bei Kreuzschmerzen.) H. Albrecht.

161 Mammary Origin of Eclampsia Toxin. E. Martin and E. Santi.

162 Anatomic Mammary Insufficiency. (Zur Frage der anatomisch begründeten Stillunfahigkeit.) R. T. Jaschke.

163 Sudden Death During Delivery. E. Venus.

160. **Epidural Injections for Sacral Pains.**—Albrecht has applied Cathelin's technic in fifty-three cases of severe pains in the sacral region without appreciable disease in the genital organs. The result was the complete cure of the pain in 72 per cent. while the benefit was brief or no benefit was observed in 28 per cent. His experience shows that the procedure is particularly useful in treatment of functional bladder disturbances, in idiopathic pruritus vulvæ and for coccygodynia. He injected from 30 to 40 c.c. of physiologic salt solution, with or without local anesthesia. In two out of three cases of enuresis a cure was obtained by a single injection, as also in nine out of sixteen cases of severe functional neuroses without pathologic findings in the abdominal organs or genitalia. Most of these patients had long been under treatment in the hospital without appreciable benefit. In a case of exophthalmic goiter with pain in the lumbar and sciatic regions, the pain subsided for three days and then returned but disappeared permanently after a second injection with no recurrence during the five months to date. In another case a complete cure was realized by this means after failure of systematic and repeated courses of other measures for relief of intense sacral pain and idiopathic pruritus in a woman with premature menopause. [The technic was described in The Journal, July 13, 1901, page 150.] Equally favorable results were obtained in eleven out of thirteen cases of severe sacral pain persisting after apparent cure of old chronic inflammation of the uterine appendages. He thinks it possible that the sacral pain in these cases was a morbid pain-habit and that this habit was broken up by the single injection. Some of these patients had been in the hospital for from six to fifteen weeks under a course of treatment to promote absorption of the products of inflammation.

Zentralblatt für innere Medizin, Leipsic

January 14, XXXII, No. 2, pp. 33-64

164 Behavior of Purin Bodies in a Case of Cirrhosis of the Liver Before and After the Talma Operation. E. Axisa.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 8, XXXII, No. 4, pp. 33-48

165 Antitoxic Action of Tuberculous Effusions. (Studi sugli essudati tubercolari umani considerati in rapporto alla immunita.) S. Livierato and E. Crossonini.

January 12, No. 6, pp. 59-66

166 General Anesthesia with Aid of Scopolamin. R. Caminiti.

Policlinico, Rome

January 8, XVIII, No. 2, pp. 37-68

167 Salvarsan in Syphilis. (Il preparato di Ehrlich-Hata nella cura della sifilide.) M. Truffi.

January 15, No. 3, pp. 69-100

168 *The Scapula-Angle Sign of Tuberculous Pulmonary Lesions. C. A. Crispolti.

168. **The Scapula-Angle Sign of Tuberculous Pulmonary Lesions.**—Crispolti states that the "acromion symptom" to which O. Kuthy has recently called attention is nothing but Baccelli's scapula-angle sign which has long been taught in Italy as an important indication of a disease process in the lungs causing the wall of the chest on that side to lag behind the other in the excursions of respiration. Baccelli found that this difference in the excursions was most marked at the superior angle of the scapula, at the inner extremity of its upper border, and that this difference was apparent even when the lesion was in an incipient stage. Kuthy devoted his attention to the movements of the acromion, and calls it the acromion symptom. He found it pronounced in 99.3 per cent. of 356 tuberculous patients examined, and in the eighty-five cases in which the trouble was bilateral, the sign was pronounced on the side most involved.

Ugeskrift for Læger, Copenhagen

January 12, LXXIII, No. 2, pp. 35-70

169 General Anesthesia with Scopolamin, Morphin and Ether. R. Hastrup. Commenced in No. 1.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Diseases of the Joints and Spine. By Howard Marsh, M.A., M.C., Cantab., F.R.C.S., Master of Downing College and Professor of Surgery in the University of [illegible] and Enlarged Edition Thoroughly Revised by [illegible] Gordon Watson, F.R.C.S., Surgeon to the [illegible] Price, $3. Cloth. Pp. 632, with 100 illustrations. Chicago: Chicago Medical Book Co., 1910.

Serum and Vaccine Therapy. Bacterial Therapeutics and Prophylaxis Bacterial Diagnostic Agents. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H., Professor of General Pathology and Bacteriology, King's College, London. Second Edition. Cloth. Price, 7 shillings 6 pence net. Pp. 406. London: J. & A. Churchill, 7 Great Marlborough Street, 1910.

Abhandlungen über Salvarsan (Ehrlich-Hata-Präparat 606 gegen Syphilis). Gesammelt und mit einem Vorwort und Schlussbemerkungen herausgegeben von Dr. Paul Ehrlich, Geh. Obermed.-Rat, a. o. Professor, Direktor des Instituts für experimentelle Therapie, Frankfurt a. M. Paper. Price, 6 marks. Pp. 402. Munich: J. F. Lehmann's Verlag, 1911.

Die Heilung der [illegible] Gemäss [illegible] Von Dr. M. J. Kittel, [illegible] für inn[illegible] Von J. F. K[illegible] Paper. [illegible] & S[illegible], W. 15, Kurfurstendamm 35, 1911.

Howard Taylor Ricketts y sus Trabajos sobre el Tabardillo (Tifo de Mexico). Publicado por la Secretaria de Instruccion Publica y Bellas Artes en cumplimiento del acuerdo relativo del Presidente de la Republica. Paper. Pp. 137. Mexico City, Mexico, 1910.

National Association for the Study and Prevention of Tuberculosis. Transactions of the Sixth Annual Meeting, Washington, D. C., May 2-3, 1910. Paper. Pp. 440. Secretary, Dr. Henry B. Jacobs, 11 Mt. Vernon Place, West, Baltimore, Md.

Festschrift zur Vierzigjährigen Stiftungsfeier des Deutschen Hospitals. Herausgegeben von dem Medical Board im Auftrage der Aerzte des Deutschen Hospitals und Dispensary in der Stadt New York, 1909. Paper. Pp. 598.

Vierzig Jahre des Deutschen Hospitals und Dispensary in der Stadt New York. Eine geschichtliche Darstellung. Paper. Pp. 119, with illustrations.

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RETROPERITONEAL SHORTENING OF THE ROUND LIGAMENTS*

F. F. SIMPSON, M.D.
PITTSBURG

I take it that the following propositions are generally conceded, and are accordingly excluded from this discussion.

1. Many displacements cause no symptoms and require no treatment.
2. Many displacements cause discomforts which may be easily and completely relieved by well-fitting pessaries.
3. In many instances discomforts due to displacements could be best relieved by operation were there not complicating affections, pulmonary, cardiac, renal, thyroid, etc., which would render operation unduly hazardous. In such cases pessaries serve a useful purpose.

There remain, however, many displacements, some simple and others complicated, which require operative correction. It is to this class alone that my remarks will refer.

The last decade has done much to crystallize our views regarding the normal position of the uterus, the mechanism of posterior displacements, the rôle played by coincident affections and the relative degrees of discomfort due to each and the many ways by which displacements may be corrected, with their respective advantages and defects.

NORMAL POSITION

The normal relative positions of the uterus and vagina are rarely given in text-books of anatomy, obstetrics or gynecology. Dissections and frozen sections of the female pelvis are misleading. They are usually made after fermentation has caused distention of the alimentary canal, including the rectum. The anterior and posterior walls of the rectum are normally in contact except when gas is being expelled, or at the time of defecation. Text-book illustrations usually show the rectum enormously distended. Adapting the illustrations of four well-known text-books to the scale of a normal mature woman, we find both the rectum and the vagina inflated to a diameter of 1½ to 3 inches. This inflation of the canals occupies nearly the entire anteroposterior diameter of the pelvis. This distortion pushes the uterus and vagina forward, the illustrations making them appear almost vertical, and almost in a straight line. As they appear to be on end the uterus is raised from its normal pelvic position to become an abdominal organ.

Normally, however, the vagina is almost horizontal, runs almost directly backward, and the uterus is directed forward at an acute angle. This horizontal position exerts *an important influence in preventing* prolapse, whereas the vertical position favors telescoping.

We have three chief factors which prevent uterine prolapse or hernia: (1) the pelvic floor; (2) the uterine ligaments, and (3) the normal acute angle between the uterus and vagina (with the cervix as a fairly fixed point), which causes the intra-abdominal pressure exerted from above to close the vaginal slit firmly.

It is a wise provision of Nature that normally closes the oblique opening through the pelvic floor more and more tightly as intra-abdominal pressure increases. This is effected by rendering the vaginal canal and the uterus which run in opposite directions, more and more nearly parallel and horizontal. This method of closure is analogous to that of the ureter as it enters the bladder.

In order that the uterus may remain in its normal position it is necessary to maintain to a considerable degree the functional value (1) of the pelvic floor; (2) of the supporting ligaments which radiate from the cervix, and (3) of the round ligaments, which act as guy-ropes.

MECHANISM OF RETROVERSION AND OF PROLAPSE

With the cervical attachment of the base of the broad ligaments acting normally as a pivotal point, the fundus will remain forward if the round ligaments are normal. If the round ligaments are stretched (as by a fall or after delivery), however, the fundus may turn backward to any degree, though the integrity of the broad ligaments and of the pelvic floor remains unimpaired. As a matter of fact, however, posterior displacements are very often, if not usually, accentuated by an injury to the pelvic floor or by stretching of the supporting (i. e., radiating) ligaments, or by both.

Should both these supports be impaired at the same time (i. e., the pelvic floor and radiating ligaments), the direction of both the uterus and the vagina is rendered more nearly vertical and they assume more nearly a straight line. When such mechanical conditions exist, it is easy for the uterus to be telescoped into and through the vagina. Such a prolapse implies:

1. A shortening of the posterior wall of the vagina as by a perineal tear.
2. The stretching of the sacro-uterine ligaments permitting the cervix to move forward.
3. Elongation of the round ligaments permitting the fundus to tilt backward.
4. Stretching of the broad ligaments, permitting the uterus to sag downward.

The degree of prolapse and the speed with which it develops varies with the type of work and other causes for varying intra-abdominal pressure, such as straining at stool, etc.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-First Annual Session, held at St. Louis, June, 1910. This article is part of a symposium, other articles of which appeared last week and further on in this issue.

COINCIDENT AFFECTIONS

In my experience about 70 per cent. of patients requiring operation for posterior displacements of the uterus have also suffered from associated diseases of the ovaries, tubes or appendix. Fortunately, the medical profession has emerged from that period when it was customary to attribute all discomforts of doubtful origin to the genital tract. By virtue of close scrutiny and strict adherence to the laws of logic many so-called reflex uterine pains have been reduced to their correct analysis and have assumed the concrete form of gallstones, gastric and duodenal ulcer, floating kidney, ureteritis, chronic appendicitis, hyperthyroidism, incipient tuberculosis, relaxation of the sacroiliac joints and other postural defects with consequent muscular and ligamentous strain, etc.

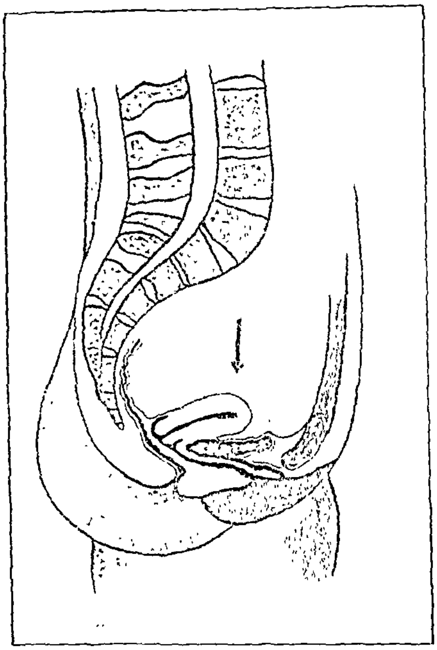

Fig. 1—Normal acute angle between the uterus and vagina. Intra-abdominal pressure, exerted from above, closes the vaginal slit firmly, thus preventing prolapse.

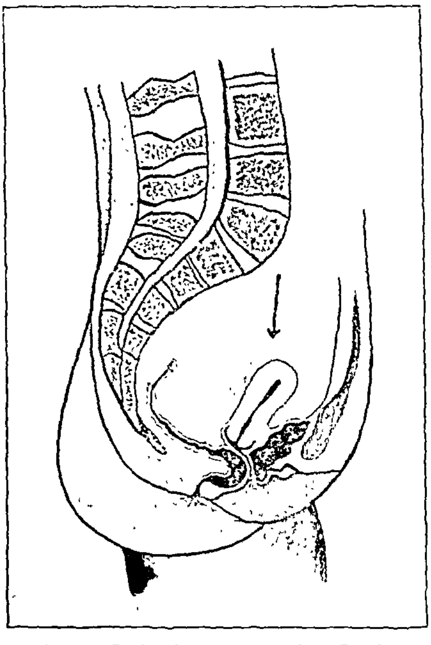

Fig. 2.—Cystocele and rectocele. Cervix permitted to move forward by relaxed broad and sacro-uterine ligaments. When the foregoing occurs the uterus and vagina are in approximately the same vertical line. It is then just a question of time when the uterus will telescope into and through the vagina.

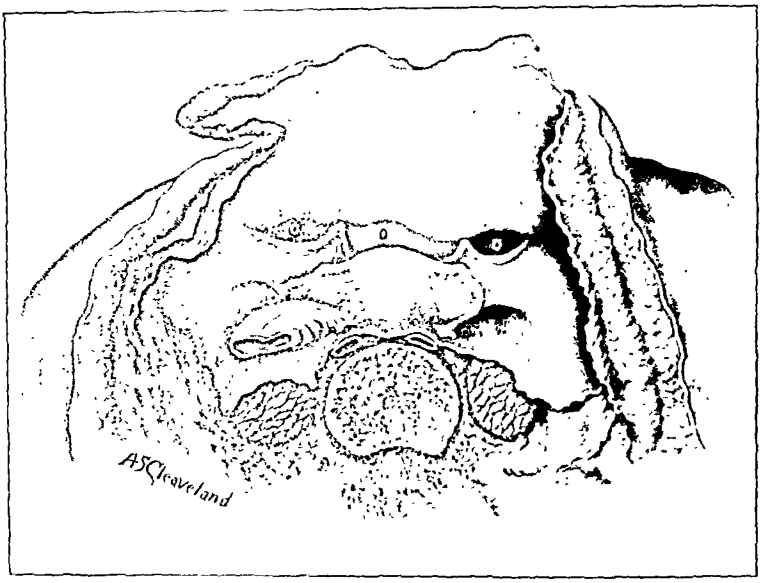

Fig. 3.—In common with other forms of transperitoneal suspension of the uterus, the Gilliam operation leaves firm bands of tissue stretching across the free abdominal cavity. R. L., round ligaments stretching across the free abdominal cavity, leaving three openings (O), through which it is possible for a loop of intestine to slip and become strangulated.

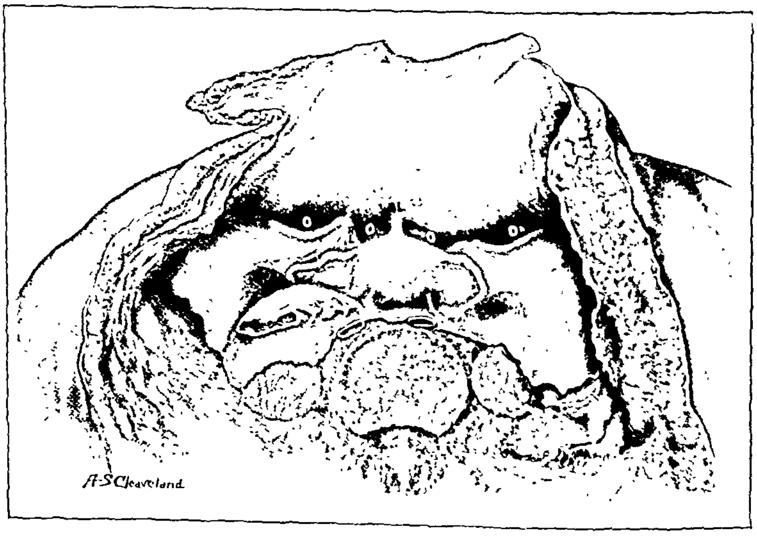

Fig. 4.—If by chance the ligaments should be overshortened and the fundus held in contact with the abdominal incision, the two surfaces become adherent. A suspensory ligament would be added and we would have four openings through which an intestine might slip and become strangulated. R. L., overshortened round ligaments and resulting suspensory ligaments (S. L.) which stretch across the free abdominal cavity, leaving four openings (O) through which an intestine might slip and become strangulated.

The medical profession and womankind owe a lasting debt of gratitude to Drs. Reynolds, Lovett, Goldthwaite and others for demonstrating the frequency with which backache is due to postural defects and rendering it easy to differentiate between the several types of pain.

Our chairman, Dr. Clark, has wisely emphasized the importance of making an itemized record of the several disease conditions affecting the individual patient; of the percentage in which they contribute to her discomforts, and of the extent to which each may *probably* be relieved by the proposed plan of treatment.

In this day of safe surgery, many people expect too much from operations and one will reduce the frequency and degree of disappointment if he strives to tell the individual patient beforehand just which of her discomforts may *not* be relieved by the operation. This enables the patient to decide judiciously regarding a plan of treatment.

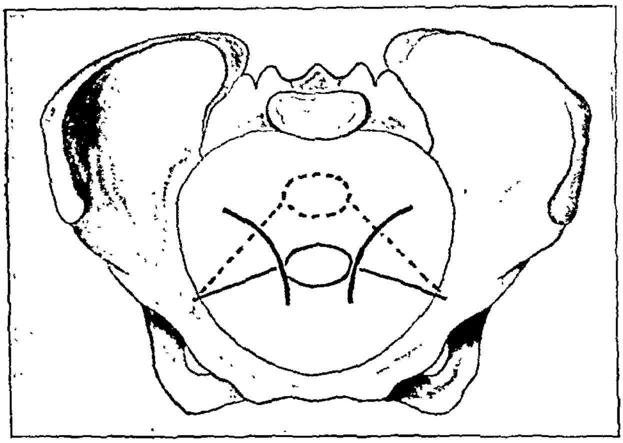

Fig. 5.—Heavy straight lines indicate normal direction of round ligaments. Dotted lines show the slight degree of stretching which will permit the uterus to become retroverted.

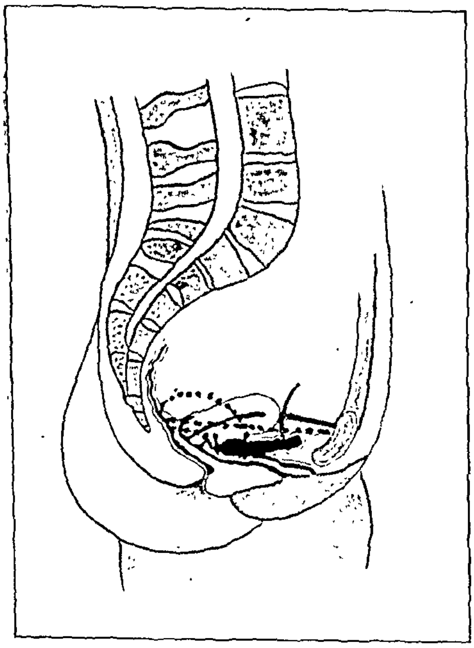

Fig. 6.—Heavy lines represent the shortened round ligament, which is directed forward. Dotted lines represent the marked stretching of the transplanted round ligaments that must take place before retroversion can occur.

OPERATIVE CORRECTION

It is needless to review here the evolution of the various procedures or to enumerate the several operations and modifications which hold the uterus forward. Each of the several recognized avenues for surgical correction has its advocates who have modified the following types of operation:

1. Inguinal shortening of the round ligaments (Alexander, Edebohls, Martin, Goldspohn).
2. Vaginal fixation of the uterus and vaginal shortening of the round ligaments (Goffe, Schuching, Duhrssen, Maskenrodt, Vineberg, Reed, Wertheim).
3. Intra-abdominal shortening of the round ligaments (Polk, Wylie, Dudley, Mann, Bissell, Morris, Baldy).
4. Attachment of round ligaments posterior to the uterus (Webster and Baldy).
5. Attaching the uterus to the anterior abdominal wall firmly, loosely, indirectly (Kelly, Fowler, Martin, Dorsett).
6. Transperitoneal shortening of the round ligaments (Olshausen, Ferguson, Beck, Gilliam, Martin, Campbell, McGannon).
7. Retroperitoneal shortening of the round ligaments (Ferguson, Noble, Simpson, Montgomery, Mayo, Peters, Barrett).
8. Shortening of the sacro-uterine ligaments through the abdomen or vagina (Bovée, Bishop, Stoner, Young).
9. Transverse attachment of the base of the broad ligaments in front of the cervix.
10. Intraperitoneal shortening of the round and broad ligaments (Coffey).

The uterus may be held forward by any one of several satisfactory methods. In order that it may remain in its normal position, it is necessary to maintain, to a considerable degree, the functional value, first, of the pelvic floor; second, of the supporting ligaments which radiate about the cervix; and third, of the round ligaments which act as guy-ropes. I take it that correction of mechanical defects of any of these structures constitutes an essential part in the several operations considered in this symposium.

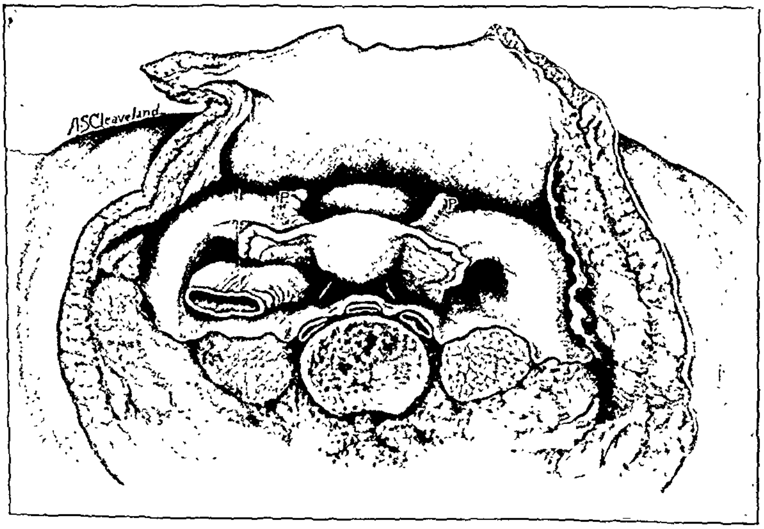

Fig. 7.—Uterus held in normal position by ligaments shortened and directed forward behind the parietal peritoneum (P).

The principles of safe and effective correction are simple. They not only take into consideration the normal position of the genital organs and the mechanism of displacements, but also the existence of other pelvic viscera (intestines, bladder, ureters) and the accidents common to them. The value of an otherwise satisfactory operation may be impaired by a considerable percentage of failures; by interfering with the function of reproduction; by causing considerable pain; by leaving bands of adhesions stretched across the free abdominal cavity; by entailing too great a risk to life or by frequently substituting other pathologic conditions which are themselves a source of considerable inconvenience.

It has always seemed to me that when skill, technic, facilities and other conditions justify elective operations, the mere fact of opening the abdomen does not necessarily entail serious risk. When the abdomen is opened, one can occasionally detect and correct associated troubles which would otherwise continue to cause discomfort. For these and other reasons, I am inclined to look with favor on the operations which open the abdomen in the mid line, thus making it possible to investigate all areas of discomfort.

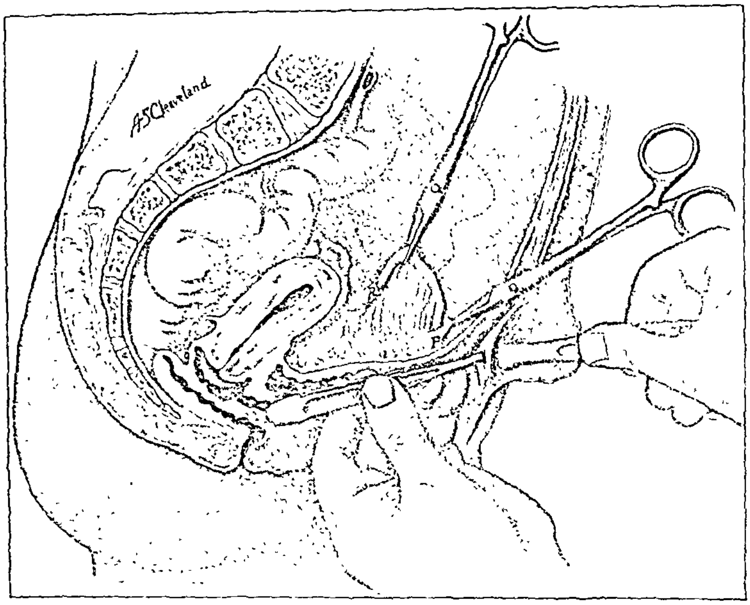

Fig. 8.—First step in retroperitoneal shortening of round ligaments. Landmarks are fixed by guide forceps preparatory to passing curved forceps in manner suggested and practiced by Drs. Charles H. Mayo and Barrett. R. L., round ligament grasped about 1½ inches from uterus. P., parietal peritoneum overlying internal ring picked up, as suggested by Dr. S. A. Chalfant.

At the time the Gilliam operation was first proposed, I was much impressed by the fact that if considered from the standpoint of the genital tract alone, it was simple and based on effective mechanical principles. The strong part of the round ligaments was used.

The ligaments were directed forward thereby giving them greater retaining power. The effect of that manner of attaching the ligaments was not to suspend the uterus, but to keep the fundus from rising and describing its backward arc of a circle.

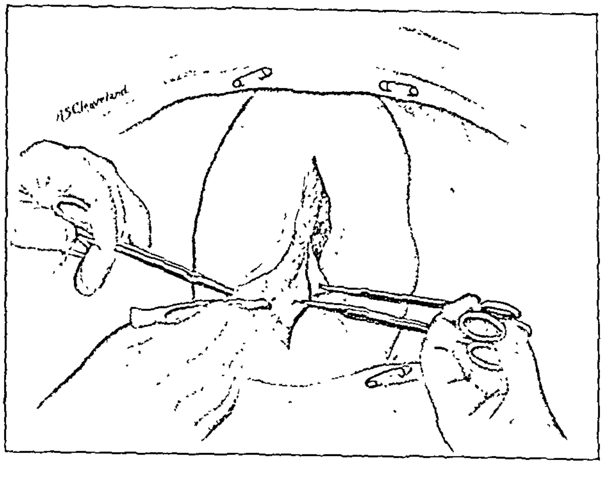

Fig. 9.—Second step: The skin is retracted and the fascia punctured about 1½ inches to the side of the lower angle of the incision.

The shortened ligaments would undoubtedly undergo the same changes of hypertrophy and involution common to normal ligaments in the course of gestation and the puerperium. Thus far the operation was ideal.

But in common with other forms of transperitoneal suspension, firm bands of tissue were stretched across the free abdominal cavity.

If by chance the ligaments were overshortened, and the fundus of the uterus held in contact with the abdominal incision, the fundus would become adherent.

A suspensory ligament would be added, and we would then have four openings through any one of which it seemed possible an intestine might slip and become strangulated.

It occurred to me at that time, as doubtless it did to many others, that if this possible source of danger could be avoided, the operation would be well-nigh ideal. At the Cincinnati meeting of the Southern Surgical and Gynecological Association in November, 1902, three papers were presented, each describing a method of utilizing the strong points of the Gilliam operation but obviating its dangers by effecting the shortening and transplantation beneath the parietal peritoneum. The first of these papers was read by Dr. A. H. Ferguson of Chicago; the second by Dr. George Noble of Atlanta, and in the third, I presented a preliminary report regarding the technic of a similar retroperitoneal operation.

The underlying principles of my operation were then described as follows:

> It consists essentially of changing the course of the round ligaments from a transverse to nearly an anteroposterior direction; in shortening the round ligaments so as to leave the distal end slack; the proximal end being used to control the movements of the uterus; finally, and especially, in effecting these changes beneath or by puckering the *parietal peritoneum*, thus leaving no bands of adhesions and no pockets which may strangulate an intestine. These principles have commended themselves to me as being mechanically and sur-

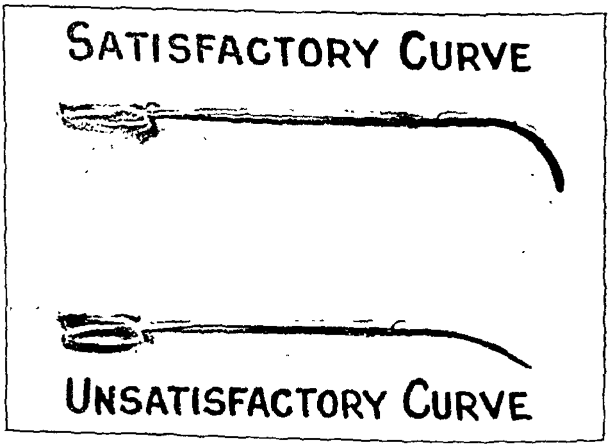

Fig. 10.—Forceps of satisfactory and unsatisfactory curve.

gically correct. Varying details of technic will readily suggest themselves to the operator.[1]

That this observation of eight years ago was fully warranted is shown by the subsequent publication of a considerable number of modifications of the three operations proposed at that meeting.

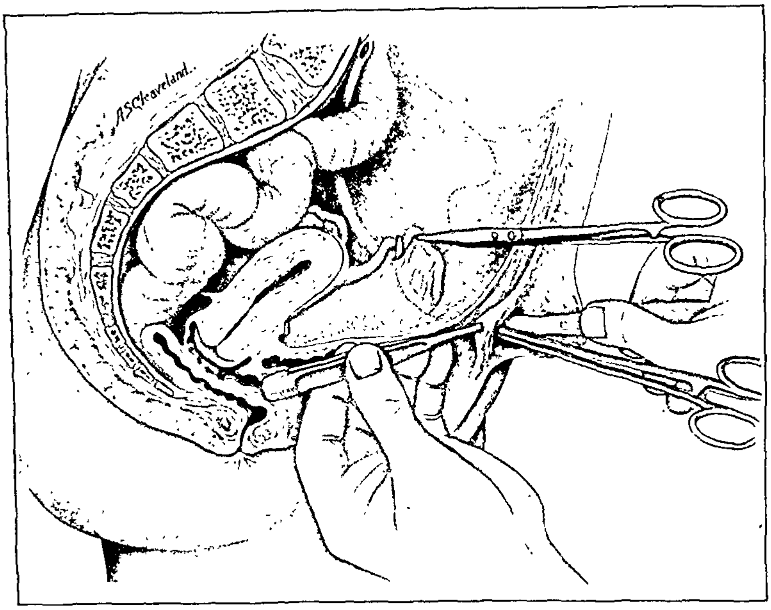

Fig. 11.—Third step: The forceps of proper curve, having passed through the fascia and obliquely through the rectus muscle, skirts beneath the parietal peritoneum to the internal abdominal ring, where it passes between the layers of the broad ligament and follows the course of the round ligament to 1½ inches of the uterus. At that point it penetrates the peritoneum, entering the peritoneal cavity for the first time, and then grasps the round ligament proximal to the guide forceps. (G. F.).

TECHNIC

My own technic has undergone several minor changes but has gradually settled down to that which we have employed for several years and considered safe, to a high degree effective, and as free as any abdominal operation of any kind can be, from the risk of adhesions. It has no bands stretching across the free abdominal cavity and carries no essential danger of strangulation. Except in two cases, it has caused no dragging sensation during pregnancy, or at any time, except during the first few days of the healing process.

Notable modifications have been made by Dr. Montgomery, Dr. Charles H. Mayo, Dr. Barrett and others. The operation as it now stands is a composite one. It consists in the following steps:

1. A median abdominal incision is made.
2. The round ligament is caught 1½ inches from the uterus and the parietal peritoneum at the point of the internal inguinal ring (Fig. 9).
3. The skin is retracted and the fascia punctured about 1½ inches to the side of the lower angle of the incision (Fig. 10).
4. A forceps of proper curve passes through this puncture, obliquely through the rectus muscle, following the method of Dr. Charles H. Mayo, and enters the broad ligament at the internal ring. It then continues to pass beneath the peritoneum and by the side of the round ligament until it reaches the hemostat holding the round ligament.
5. The curved forceps then penetrates the peritoneum and grasps the round ligament. The free margin of peritoneum is held by a hemostat during the next step.
6. The curved forceps is drawn out bringing the round ligament through the tunnel it has made.
7. The round ligament is then fastened and suspended just beneath the fascia by a linen thread which closes the rent in the fascia and at the same time holds the ligament firmly. The same process is repeated on the opposite side.

Some features and variations in technic and subsequent care which deserve comment are the following:

1. The ligament should not be attached to the upper surface of the fascia. Any permanent perforation of the fascia invites hernia.
2. The operator should actually see that his suture attaches the ligament to the fascia rather than to the fat overlying the fascia.
3. If the round ligaments are caught too near the uterus, or if they are fastened together in the mid line (either above or below the fascia), the uterus will be held in contact with the line of incision and a suspensory ligament will form. In one of my early cases that happened. The intestine became adherent, slipped behind the suspensory ligament (which should never exist) and annoying cramps followed, requiring operation.

RESULTS

1. *Mortality.*—I have done this operation with modifications, and in connection with necessary plastic and other work, about 400 times. There have been two deaths (in complicated cases), giving a mortality of 0.5 per cent. In about 70 per cent. of these cases, the appendix, tubes and ovaries, or adhesions required attention. During the last few weeks, I have gained definite information regarding about 75 per cent. of the patients. Regarding the other 25 per cent., either nothing has been heard from them or their physicians,

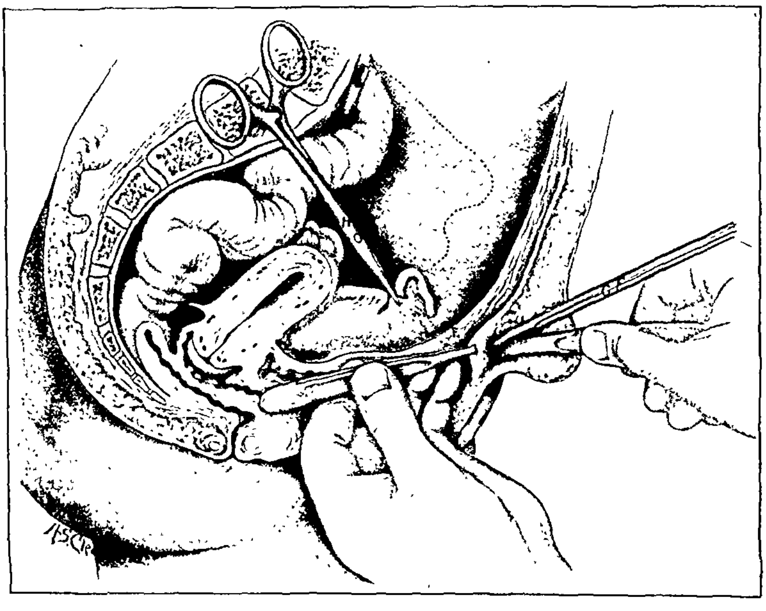

Fig. 12—Fourth step: The margin of peritoneal wound having been caught by hemostatic forceps (H), the curved forceps (C. F.) grasps the round ligament. By withdrawal of the curved forceps the round ligament is drawn out through the canal made by the forceps.

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[1] Am. Jour. Obst., 1903, xlvii, No. 2.

or else the doctor has reported that his information is neither recent nor exact. These facts have been obtained in two ways: first, from the medical attendants who have recently seen and examined the patients; and second, from my own notes made at the time of recent examinations. This inquiry includes:

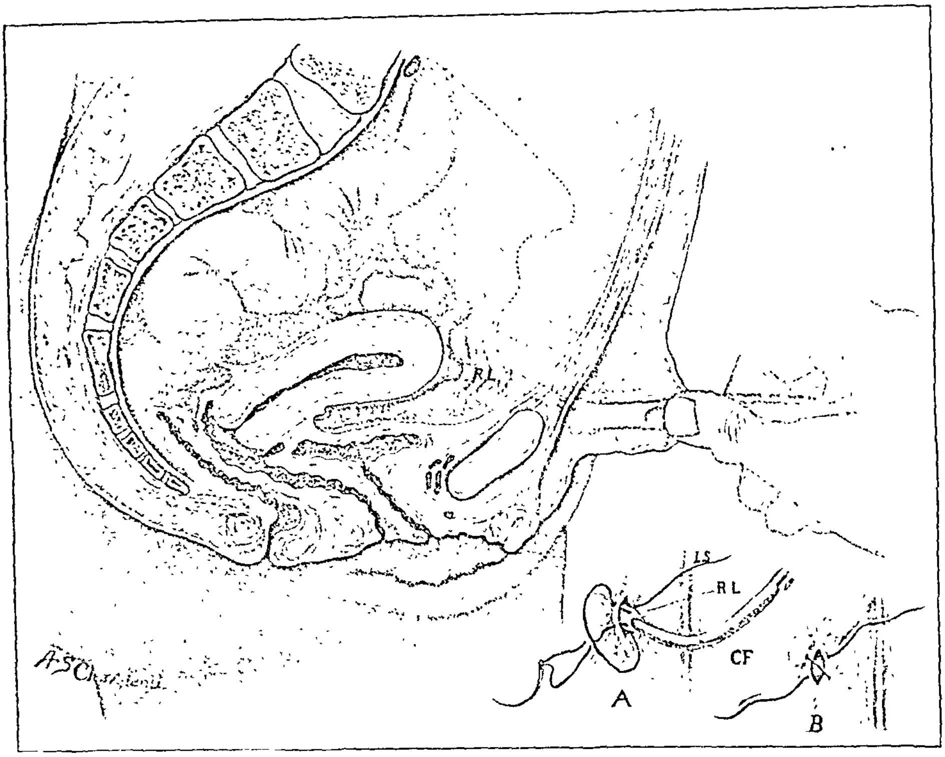

Fig. 13.—Final step: The round ligament (R. L.) is suspended beneath the fascia by a linen suture (L. S.) which also closes the rent in the fascia. The same process is repeated on the opposite side. Method of fastening shown on the margin.

2. *The Present Position of the Uterus.*—In two cases the uterus is known to be retroverted but without discomfort. Three or four uteri with congenital defects are about in the long axis of the body. Four with prolapse are known to have the fundus forward, but the cervix was not held well back by the plastic operations and shortening of the sacro-uterine ligaments. In three cases after delivery the uteri were back at about the sixth week, but were permanently corrected by the temporary use of pessaries. In all the other cases, that is, in more than 97 per cent. of those heard from, the uterus is in the normal position.

3. *Pregnancy.*—For various reasons (patients unmarried, widows, passed menopause, operation required removal of one or both adnexa, etc.), 40 per cent. of those heard from would not be expected to conceive. Of the remaining one hundred and eighty patients heard from, forty-five have conceived. One patient is now normally pregnant three months; one patient is now normally pregnant four months; two patients are now normally pregnant six months; two patients are now normally pregnant eight months, and one patient is now normally pregnant nine months.

Nine have aborted; four had aborted before; two of them probably had syphilis; in two no cause was known by the attendant. Three of these also bore one child. One had an ectopic gestation. Twenty-three bore one child at the end of normal pregnancy. Three of these also aborted once each. One of this number is reported to have died of puerperal infection seventeen days after a normal delivery. Five have had two children at the end of normal pregnancies.

4. *General Health.*—This has been very markedly improved or completely restored in 82 per cent.

Little or no improvement, 15 cases, 5 per cent.

Somewhat improved, 38 cases, 13 per cent.

Markedly improved, 128 cases, 43 per cent.

Completely restored, 117 cases, 39 per cent.

5. *Local Discomforts.*—These were very markedly or completely relieved in 84⅔ per cent.

Little or no improvement, 10 cases, 3⅓ per cent.

Required second operation for cystic ovaries after which relief was complete, 6 cases, 2 per cent.

Somewhat improved, 28 cases, 9⅓ per cent.

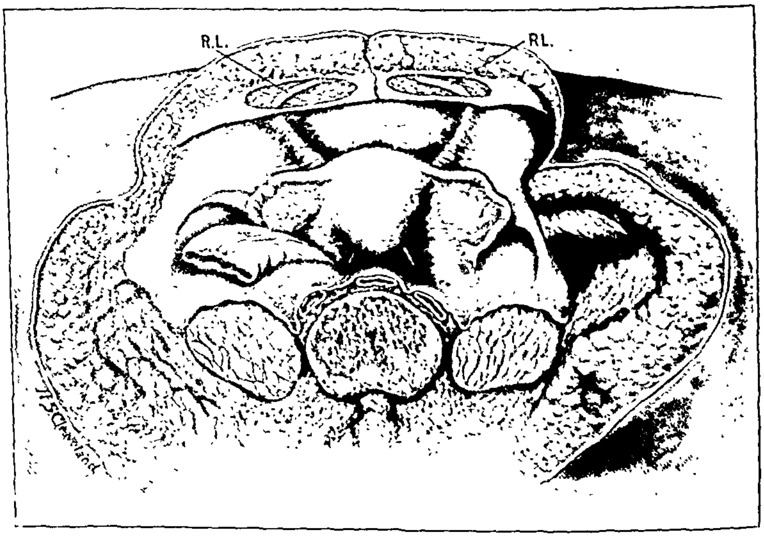

Fig. 14.—Retroperitoneal course of the round ligaments fastened beneath the fascia. P., folds of peritoneum covering the round ligament. R. L., round ligament as it lies in its oblique course through the rectus muscle and attached to the under surface of the fascia.

Decidedly improved, 72 cases, 24 per cent.

Completely relieved, 182 cases, 60⅔ per cent.

6. *New Local Discomforts.*—Here inquiry was especially made regarding dragging sensation in the new course of the ligaments. New discomforts were noted

in two, or less than 1 per cent.; *no* new local discomforts in 296, or about 99 per cent.

My percentage of partial or complete failure to hold the uterus forward has been about 2 per cent. No round-ligament operation alone will be uniformly successful under the following conditions:

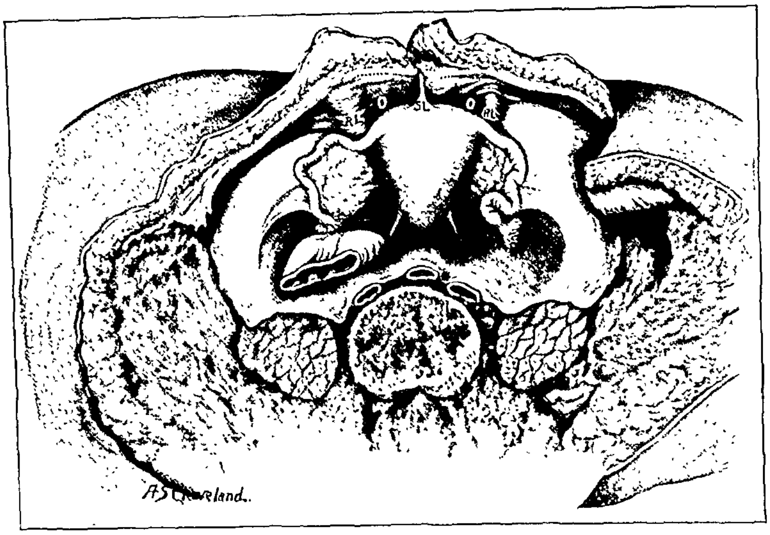

Fig. 15.—If the round ligaments are caught too near the uterus or if they are fastened together at the mid-line (either above or below the fascia) a suspensory ligament will likely be formed. Dotted lines show the retroperitoneal course of round ligaments which are fastened together in the mid-line S. L., which is the dangerous suspensory ligament so likely to form if this error is made.

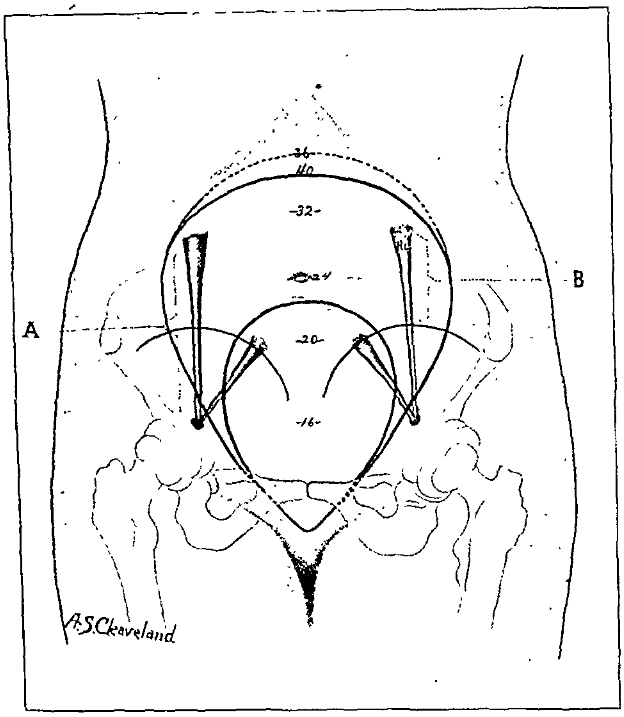

Fig. 16.—Immediately after delivery the uterus is markedly reduced in size and length. The length of the round ligaments is gradually reduced. For days they are long enough to permit the uterus to fall back into the hollow of the sacrum. If it remains back during the puerperium, the ligaments will be *permanently* stretched. A, total length of round ligament at the beginning of labor. B, excess of ligament at the end of labor.

1. When the ligaments are very delicate. I have had one failure due to this cause.

2. When the congenital attachment of the bladder is low and that of the sacro-uterine ligaments is high. This defect must also be corrected. I have had three or four partial failures due to this cause.

3. When the sacro-uterine ligaments and the base of the broad ligaments have been very much stretched, giving a decided prolapse. These defects should also be corrected (as, of course, the underlying lacerations). I have never had difficulty in keeping the fundus forward, but I have occasionally had an imperfect result because my attempts at shortening the sacro-uterine and the broad ligaments were not always perfectly satisfactory. I have knowledge of four cases of this kind.

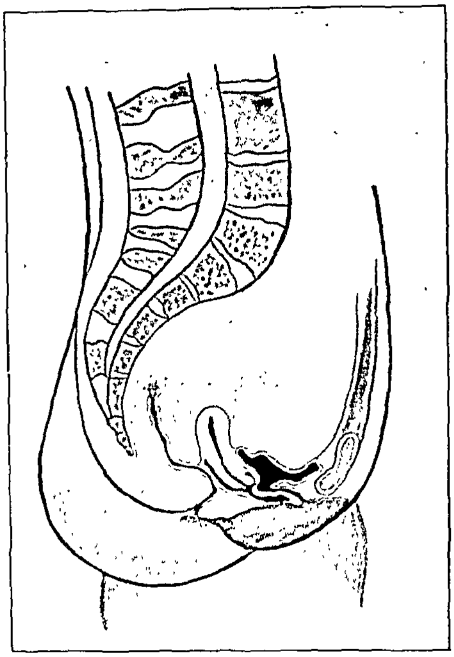

Fig. 17.—A low attachment of the bladder to the cervix, and a high attachment of the sacro-uterine ligaments. This faulty leverage must be overcome to ensure the success of any corrective measures.

The ligaments undergo the normal course of hypertrophy and involution during pregnancy and the puerperium. It is attended by slightly less risk of post-partum retroversion than follows delivery where the uterus has never previously been misplaced. This less risk is due to the anterior direction of the ligaments. Puerperal retroversions are easily and permanently corrected by the temporary use of pessaries. It, accordingly, is the imperative duty of the obstetrician to see that every uterus is in its normal position for at least three months after delivery, whether there has been previous trouble or not.

1112 Bessemer Building.

Massage in Neurasthenia.—The patients in whom massage is of most value are those feeble and emaciated individuals, asthenic in every respect, tired with the slightest effort, afflicted with atonic forms of dyspepsia in their most extreme degrees, often with flabby toneless hearts, low blood-pressure, anemic and incapable of the slightest mental exertion. The methods most suitable to neurasthenic patients are firm stroking or effleurage and kneading movements or pétrissage, the slapping, percussive and vibratory motions being omitted at first entirely, though vibration may soon be adopted for the abdomen, where it is especially useful in stimulating the intestinal muscle and the portal circulation. The mark of good massage is that the patient should feel rested and inclined to sleep, and should have a pleasant sense of warmth and comfort.—C. W. Buckley in the *Practitioner*.

THE TECHNIC OF THE EXAMINATION OF ESOPHAGEAL LESIONS*

H. S. PLUMMER, M.D.
Physician to St. Mary's Hospital
ROCHESTER, MINN.

About 300 esophageal cases which have come under observation during the last four years have been studied not only with a view to the establishment of a correct diagnosis and productive therapeutics for the individual case, but also with the idea of determining the relative value of the clinical and technical findings. I wish in this paper to consider briefly those points which contribute to obtaining definite technical data safely.

The clinical examination is of the utmost importance not only for its intrinsic value, but as a guide to the succeeding technical procedures. The more important features to be determined in esophageal diseases by the technical methods of examination are the existence, size and relations of pockets, dilatations and strictures, and the character of the esophageal wall, notably at the seat of narrowing.

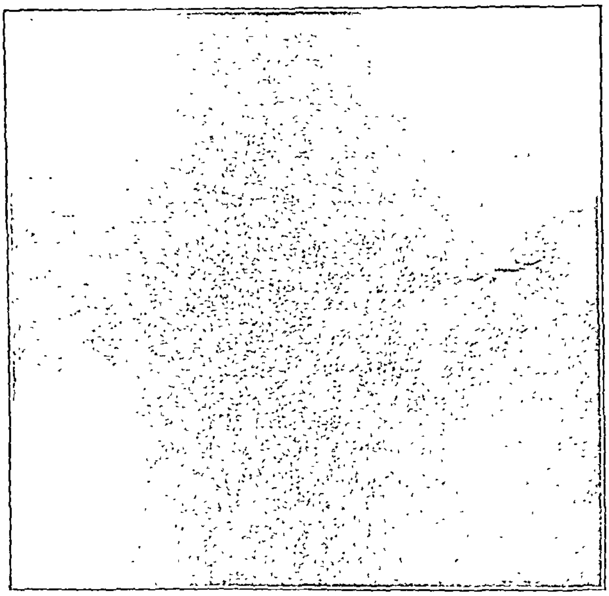

Fig 3.—Diverticulum of esophagus, from skiagraph.

The technical methods which have proved of especial value may be grouped under three heads, namely: roentgenography, esophagoscopy and the various methods of sounding.

Roentgenography discloses thoracic masses obstructing the esophagus by pressure from without and occasionally a good shadow may be obtained of an esophageal tumor. Its chief service is that of revealing the position, shape, size and relations of diverticula and dilatations when filled with bismuth mixtures. Diverticula as a rule give shadows which are characteristic (Figs. 1 to 6). The large dilatations which occur in the upper third of the esophagus above organic strictures can be distinguished from diverticula by a tail-like portion of bismuth extending downward from the bottom of the sac (Fig. 7). However, this may be absent. Passing a small sound on a thread quickly differentiates the two conditions. Most striking are the large, irregularly spindle-shaped shadows obtained in cases of diffuse dilatation of the esophagus following spasmodic and, infrequently, organic stricture at the cardia.

In cases of cardiospasm (Figs. 8 to 19) the lower extremity of the shadow is cone-shaped and its apex corresponds (Figs. 8 and 20) to the hiatus esophagi, while in cases of organic stricture the outline is irregular and terminates above the hiatus. In most instances the dilatation extends to the upper border of the manubrium and is constricted at the root of the lung. The dilatations occurring above organic strictures are, as a rule, of limited extent and in their lower portion irregular in outline (Fig. 21).

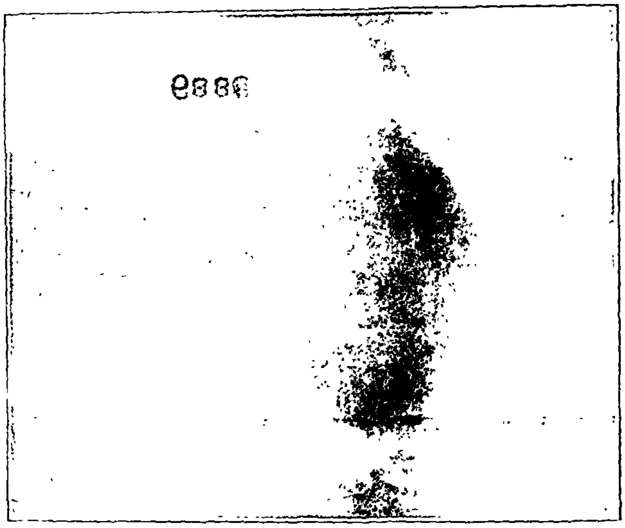

Fig. 4.—Diverticulum of esophagus, from skiagraph.

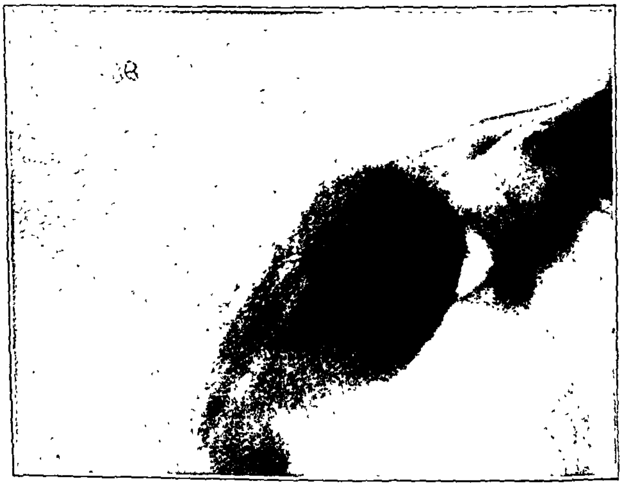

Fig. 5.—Diverticulum of esophagus, from skiagraph.

While the fluoroscopic pictures are interesting in studying both the normal and pathologic processes of deglutition, they add but little to the plate method in esophageal diagnosis. Mucilage of acacia has proved the most valuable vehicle in which to give bismuth. It adheres to the esophageal wall and can be readily washed out. The heavier bismuth meals and the rubber bags filled with bismuth do not give any advantage commensurate with the discomfort caused the patient. The bismuth capsule but rarely gives information not more easily obtained by other methods of examination. In patients complaining of slight or questionable dysphagia a delay in the passage of the bismuth may indicate grounds for an esophagoscopic examination.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

* The illustrations accompanying this article were so numerous that part of them have been omitted because of lack of space. The entire article appears in the Transactions of the Section and in the author's reprints.

In esophageal work, success, from both the diagnostic and the therapeutic standpoints, depends largely on our ability to pass instruments through the esophagus.

Safety should be the keynote in esophageal technic. This is to be obtained by a clear conception of the way in which the force is being expended when introducing an esophageal instrument. The force is dissipated either in overcoming the friction of the staff on the wall of the passage or at the tip of the instrument. Obstruction at the tip is due either to pocketing or actual narrowing of the lumen in the canal. Safety resolves itself into the recognition of pockets and avoidance of undue pressure on an instrument which is pocketed.

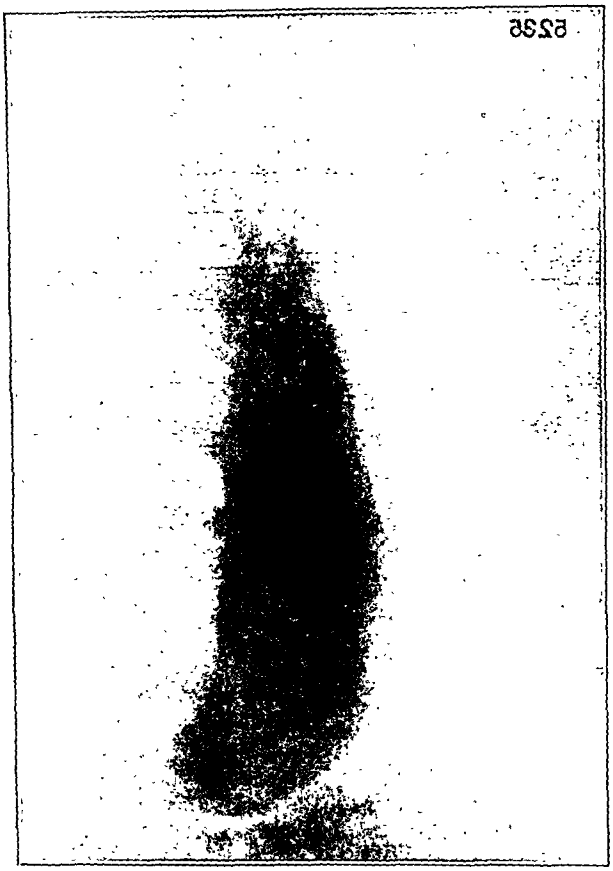


Fig. 8.—Diffuse dilatation of the esophagus in case of cardiospasm.

The tip of an esophageal instrument must be constantly under the guidance of vision or must follow a guide in such a way as to make perforation of the esophageal wall impossible. Let us conceive an instrument having the qualities of the finest silk thread at its tip, gradually merging into a rigid staff (Fig. 22). With patient persistence the thread could be passed through any patent esophagus and, if tension were maintained on the thread, the staff could be introduced into the stomach. This is mentioned to call attention quickly to the principles involved in successfully and safely introducing esophageal instruments. Such departures from this hypothetical instrument are permissible, as the rigidity of the staff, tortuosity of the canal, necessary force, etc., permit, without invalidating the essential principles. The adaptation of Mixter's method of using a silk thread as a guide has proved of inestimable value. The patient swallows six yards of silk thread. This passes down through a sufficient number of coils of intestine to prevent its withdrawal on being pulled taut.

With the whalebone staff and olive passed on a silk thread (Fig. 23*b*) we may locate pockets, determine their depth, measure the diameter of strictures, divulse them and estimate the rigidity of the esophageal wall at the seat of narrowing.

Only sufficient force to detect obstruction is permissible in advancing an unguided esophageal sound. With a silk thread that degree of force may be used which is short of carrying the thread out of its course and through the esophageal wall, or of endangering the esophagus by longitudinal traction, or of splitting the esophagus by a dilating wedge. If sufficient obstruction is encountered to make it seem possible that the thread might be carried out of its course, a piano wire (Fig. 23*c*) should first be passed on a thread and the olive passed on the wire. With the wire in place the possibility of introducing a sound is assured. When passing an olive on the wire, tension on the thread should be maintained to avoid any possibility of the tip of the wire penetrating the wall of the stomach or esophagus. Figures 24 and 23*d* show the distal portion of a piano wire guide and carrier for working the wire through a tortuous cicatricial stenosis on a thread. Various sizes of piano wire may be used and its flexibility further varied by the amount of wire exposed.

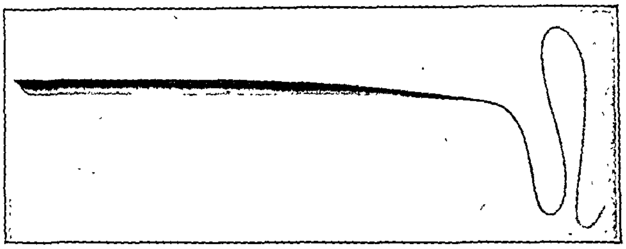


Fig. 22.—An ideal esophageal instrument, consisting of fine silk thread gradually merging into a more or less rigid instrument.

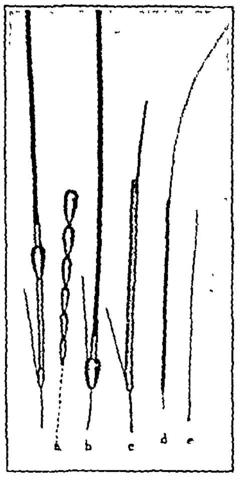


Fig. 23.—Various forms of esophageal sounds.

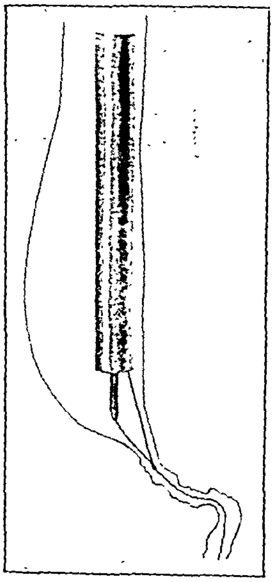
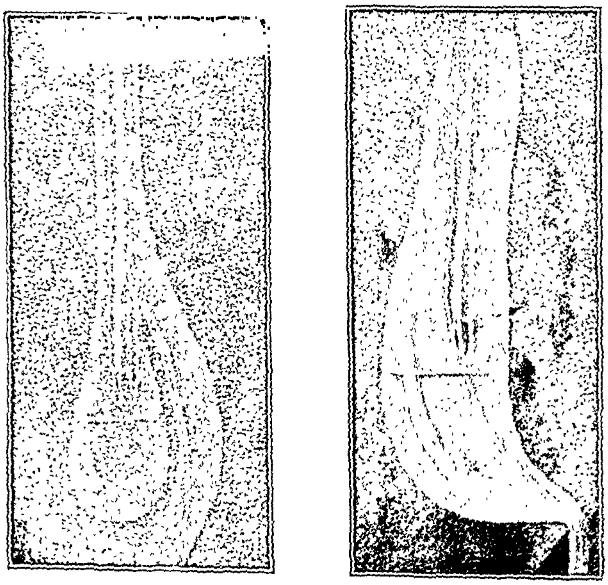


Fig. 24.—Piano-wire guide and carrier.

In the treatment of cicatricial stenosis the wire guide is not often necessary after the first dilatation, and the thread may be dispensed with as soon as the smaller sizes of spindles will pass without encountering obstruction at the site of the stricture. Further dilatation is carried out with the sound shown (Fig. 23*a*); the flexible, spiral metal tip acts as a guide and the stricture is dilated with the olive inserted in the staff. In those dense, extensive strictures in which sufficient dilatation cannot be obtained by dilating with a spindle, I resort to a modification of Dunham's esophagotome, which utilizes Dr. Abbe's principle of cutting partially through the distended stricture by a string pulled back and forth.

Without going into the reasons it is sufficient to state that an unguided sound will, as a rule, be pocketed if an opportunity is present. When introduced on a taut thread the sound follows the axis of the lumen of the esophagus. By varying the tension on the thread, obstruction from pocketing, and obstruction which is the result of actual narrowing of the canal, may be distinguished. The elimination of pocketing permits a more accurate determination of the diameter of the lumen and the rigidity of the esophageal wall at the seat of narrowing. Figures 25 and 26 (also 27 and 28) illustrate the use of a sound in demonstrating the existence of a pocket, its point of origin and more dependent portion. The sound is first introduced into the diverticulum until obstruction is encountered; holding the sound in place, the thread is drawn taut. Traction on the thread will now lift the sound out of the esophagus sufficiently far to bring the olive to a level with the opening into the distal portion of the esophagus. Until this point is reached the sound cannot be advanced without relaxing the thread. The same procedure, using a metal-tipped stomach-tube stiffened with a whalebone staff, permits of obtaining the contents of a diverticulum, dilatation or of the stomach, with a definite knowledge of the location of the point of the tube and a certainty that it will enter the stomach (Figs. 27 and 28).



Figs 27 and 28.—Metal-tipped stomach-tube guided by a thread.

Crowding a sound out of a pocket, or out of a pocket and through a cardia or stricture much larger than the olive, may give the impression of having passed a narrow stricture with rigid walls. The more accurate determination of the diameter of the lumen of the canal and the rigidity of the esophageal wall at the seat of narrowing, which the elimination of pocketing permits, is well illustrated by lesions at the cardiac orifice.

The thoracic portion of the esophagus is placed nearly in the median line, but deviates to the left as it passes forward to the opening in the diaphragm. In passing an olive through the lower three inches of a normal esophagus the staff impinges on the left anterior wall and the olive is directed to the cardia by the left posterior wall. This portion of the esophageal wall presents an increasing degree of obstruction as it approaches a horizontal plane in cases of diffuse dilatation. The degree of obstruction encountered depends also on the stiffness of the staff, the size of the olive and the tonicity of the esophageal wall. A stiff staff has a tendency to penetrate the esophageal wall (Fig. 29*A*), while a relatively flexible staff conforms to the right posterior wall and the olive approaches the opening in the diaphragm at an angle with the axis of this portion of the esophagus (Fig. 29*B*). The rigidity of the esophageal wall and the ledge formed by the upper margin of the growth are also important factors in passing a sound through a carcinomatous cardia (Fig. 30).

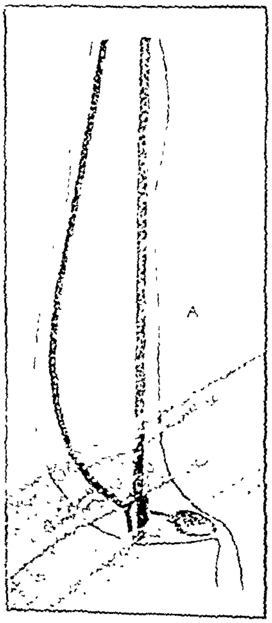


Fig. 29.

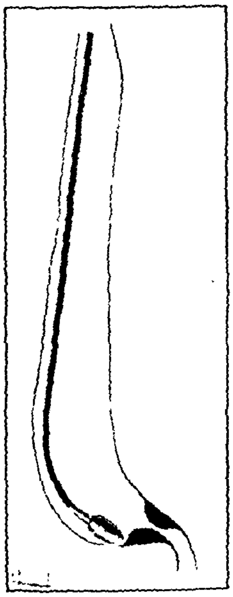


Fig. 30.

Fig 29.—Diagram of diffuse esophageal dilatation, showing danger from stiff staff (*A*), together with use of flexible staff (*B*).
Fig. 30.—Passing a sound through a carcinomatous cardia.

In cases of diffuse dilatation following cardiospasm it is frequently impossible to pass an unguided sound through the cardia with a degree of force that is safe (thirty out of sixty-five cases which have come under my observation), while a 15-mm. olive but rarely meets marked obstruction when passed on a thread. Decided obstruction of yielding character, followed by slight hemorrhage, is usually encountered when passing a carcinomatous cardia, while in benign cicatricial stenosis the smallest sizes of olive encounter an unyielding esophageal wall.

Leaving foreign body cases out of consideration, the most essential service of esophagoscopy is that of revealing the character of the esophageal wall. It is a relatively safe procedure in the hands of one who has acquired good technic. Safety lies in a clear conception of the way in which the force is being expended when introducing the instrument. Friction on the walls of the passage is an important element, as it makes advancement of the instrument jerky and obscures any fine sense of resistance at the tip of the instrument. I wish to call attention to Brunning's modification of Killian's esophagoscope (Fig. 31). It has a convenient and a sufficiently strong handle to permit of bringing the cardia into view, a light that rarely fails at the critical moment, a short upper section with a tip well adapted for easily passing the cricoid, and that eliminates friction in introducing a telescoping section through the lower portion of the esophagus. A satisfactory examination can, in the majority of cases, be made without an anesthetic in less than five minutes. In rare instances a guide becomes necessary to pass the cricoid, a ledge of mucous membrane, or a tortuous esophagus, the lumen of which is large enough to admit an esophagoscope. This guide must follow the lumen of the esophagus in such a way as to make perforation with its tip impossible. At its tip it should be sufficiently flexible to follow the lumen of the canal or a silk thread, and yet not double on itself. From its tip it should gradually merge into the rigid staff of the esophagoscope so as not to permit of any abrupt curve or ledge which might bruise or gouge the mucous membrane.

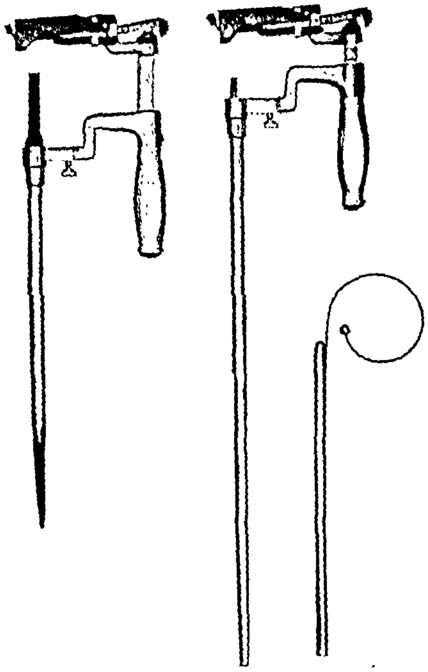


Fig. 31.—Brunning's modification of Killian's esophagoscope.

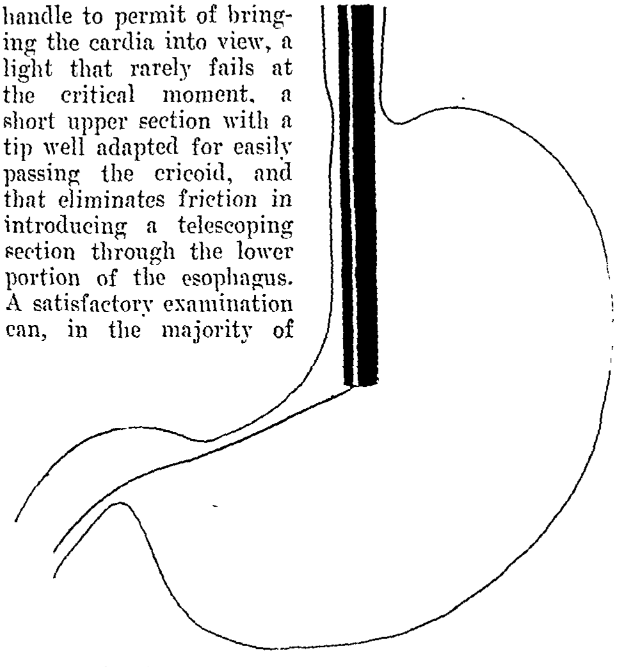


Fig. 37.—Thread used as a guide in gastroscopy.

In esophagoscopic work one of the chief drawbacks is the constriction of the esophagus above that portion of the esophageal wall essential to our knowledge. In about 35 per cent. of the cases of carcinoma, for instance, the mucous membrane is intact at the lowest point in the esophagus which can be brought under inspection. Figure 32 (also Fig. 30) illustrates an esophagoscope obstructed by a ledge formed by infiltration beneath an intact mucous membrane. A small esophagoscope may be introduced through a preceding one, with a guide, sufficiently far to bring the involved mucous membrane into view (Figs. 33 and 34). The elimination of friction by the first instrument introduced permits of safely carrying out this procedure in a good many instances.

Occasionally the thread is a valuable guide in following the course of the esophagus with the esophagoscope. To the experienced operator this is not of much advantage, except in cases of congenital malformation and in locating the slit-like opening into the distal portion of the esophagus in cases of diverticula (Figs. 35 and 36; also 23 and 24). When drawn taut the thread impinges on that margin of the distal opening of the esophagoscope toward the lumen of the esophagus. In direct gastroscopy, orientation is much facilitated in a similar manner (Fig. 37).

ABSTRACT OF DISCUSSION

DR. WILLY MEYER, New York: The method just advanced by Dr. Plummer is an extremely valuable addition to our resources for the diagnosis and treatment of esophageal troubles, especially of diverticula. It shows how we are able to make our diagnosis even in difficult cases. At the meeting of the American Surgical Association, recently held in Washington, Dr. Charles H. Mayo told us how he, on the basis of such a definite diagnosis, has been able to extirpate two pressure diverticula in the upper portion of the esophagus.

At the German Hospital of New York, Dr. De Witt Stetten, one of the adjunct surgeons, recently operated successfully in a case of this kind and published a very interesting analysis of esophageal diverticula. This class of diverticulum is a surgical disease. What I wish to emphasize is that it is also sometimes impossible in cases of large fusiform diverticula of the esophagus, as we meet them in consequence of cardiospasm of long standing, to get along with non-operative treatment. We know that if cardiospasm has existed for a long time the wall of the esophagus is very much distended, in the shape of a lamp chimney. In such a case I am sure that it is impossible to expect the esophagus, even with the cardia treated persistently by dilatation, to be amenable to reconstruction; the muscular layer of the esophageal pouch will not get back the power of thorough contraction so as to allow fluids and solids to pass easily down into the stomach. Often it is impossible to pass the contracted cardia with any kind of instrument or thread. In such cases operative procedures must be resorted to.

At the German Hospital in New York we recently had a patient, 45 years old, who had been sick for fifteen years with what was evidently a cardiospasm at the beginning. Later, in spite of treatment, the patient was unable to swallow anything. Even fluids were regurgitated after a little while. The patient had to be treated by rectal feeding. Soon gastrostomy had to be done. Careful diagnosis with the *x*-rays showed a stricture at the cardia, with a large fusiform dilatation above. The sound always was caught in the region of the cardia, and could be introduced with gentle handling for nineteen inches (sixteen inches is the average length down to the cardia). Still, with the cystoscope in the stomach, introduced through the gastric fistula, we could not see the sound. It was caught in the large esophageal pouch above the diaphragm. Therefore, basing our procedure in a patient absolutely averse to further instrumentation on the knowledge that such an esophagus cannot retract to proper size, we proceeded in the following manner: With the help of the lower half of Schede's incision through the skin and serratus muscle the left thoracic cavity was entered in the seventh intercostal space with differential pressure. The lung, which was tightly adherent to the chest wall, had to be loosened, and was then pressed upward and inward. With good illumination we found the large fusiform diverticulum covering three or four inches of the esophagus, as diagnosed, just above the cardia. It represented a large pouch. After division of the posterior continuation of the costal pleura the pneumogastrics were pushed aside and the left forefinger gradually worked around the pouch. A sound introduced from above was always caught posteriorly in a pocket near the spine. With the one hand in the thoracic cavity around the esophagus, the lower end of the sound could be guided and lifted upward with the other hand, so that it was made to pass through the cardia. I then made a plication or double fold in the esophagus by means of suture, in this way materially reducing the diameter of the fusiform dilatation in a length of three to four inches. At the end of the operation the esophagus was allowed to go back into its bed. To-day the patient is in good condition.

NOTE (Later).—At the end of June she is able to swallow everything without regurgitation.

DR. H. S. PLUMMER, Rochester, Minn.: Some sixty-five cases of diffuse dilatation of the esophagus have come under my observation, many of the patients being in the last stages of inanition, some of them right at the point of death. Many of them gave a history extending back over twelve or twenty years. I have not seen any case that was not readily, easily and completely cured by dilating the cardia.

TECHNIC FOR REMOVAL OF APPENDIX AND FIXATION OF CECUM*

C. A. ROEDER, M.D.
GRAND ISLAND, NEB.

THE APPENDIX

Although removal of the appendix is generally a simple matter and is attempted by the general practitioner as well as by the surgeon, it is too often followed by annoying symptoms which are generally due to adhesions. Therefore any technic that is simpler than the average and does away with the possibility of post-operative adhesions, is the one to be adopted.

Below is a procedure adopted by George Roeder and myself in the last 100 appendectomies, which is a sufficient number, I think, on which to base an opinion. It is simple, rapid and also safe, requiring on the average ten minutes from the time the incision in the skin is made until it is closed.

Its essential features are a single purse-string, fine linen suture which is not cut until the operation is finished (Figs. 1 and 2). The suture, in passing from one side of the mesentery to the other, passes through the external coat of the base of the appendix on its mesenteric border in order to embrace an artery that might run along the surface, which will be inside the purse-string after the crushed stump of the appendix is inverted; no area of cecum is ever uncovered by peri-

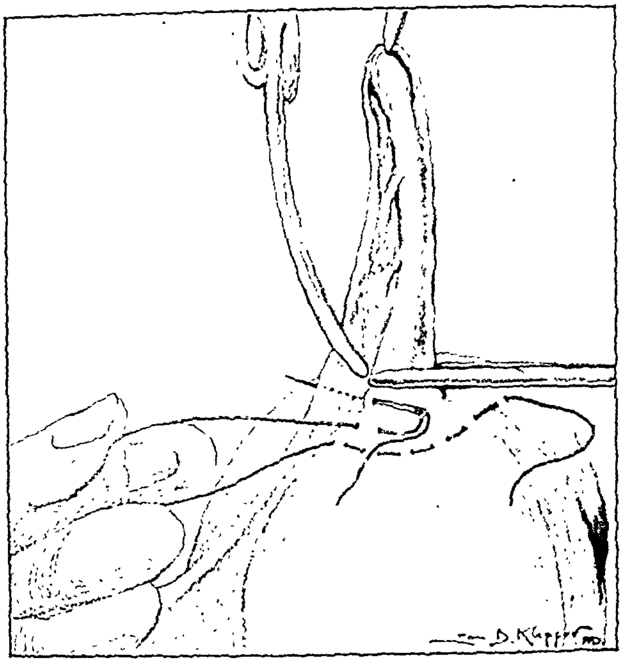


Fig. 1.—Appendix extended; crusher applied so as not to include any portion of the mesentery; artery forceps applied to the meso-appendix; purse-string suture passed through the external coat of the cecum, the needle taking a bite of the appendix through its external coat at its base on the mesenteric edge. The suture is then continued around on the other side, the loop being held by the assistant.

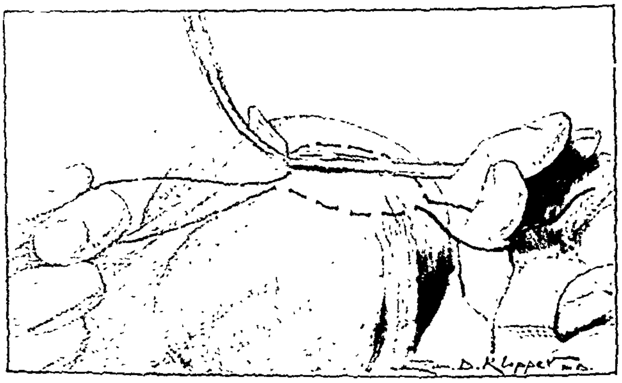


Fig. 2.—The appendix is cut flush with the crusher and the meso-appendix one-fourth inch above the artery clamp; the purse-string suture is shown completely encircling the appendix base. The crusher is now gently released and the stump is inverted.

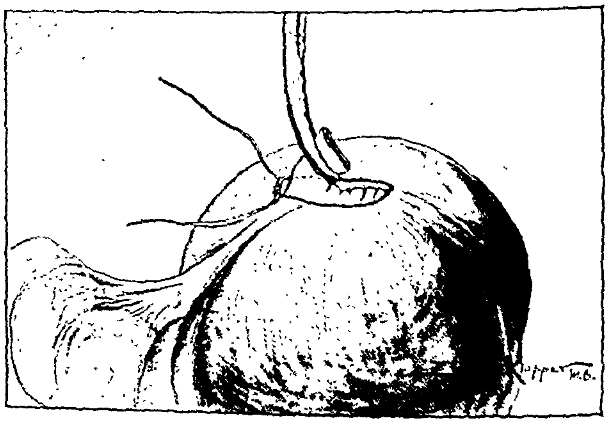


Fig. 3.—The appendix inverted; the clamp still on the mesentery; the purse-string suture is drawn together and its ends are being tied around the stump of the mesentery in the groove made by the clamp, which leaves a knob distal to it, preventing it from slipping off the mesentery and its artery.

toneum; this does away with suturing the peritoneum over the bowel as in other procedures. A second purse-string, continued from the first, inverts the stump of the ligated mesentery with its artery and buries the knot, leaving a perfectly clean peritoneum behind (Fig. 5). This second purse-string relieves tension on the first from post-operative gas, a valuable suggestion from the Mayo clinic.

We do not tie the stump; the procedure is entirely unnecessary with this method, and not without danger, as there would be a pocket formed, below by a ligated raw stump, and the purse-string above, inhibiting drainage into the bowel, which might be necessary for infected or necrosed material. Figures 4 and 5 illustrate further steps in the operation.

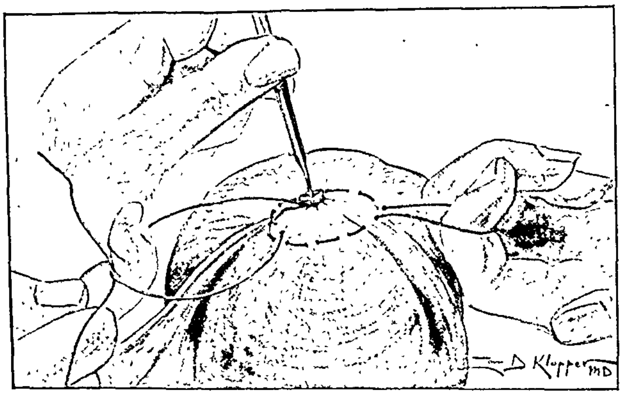


Fig. 4.—Meso-appendix tied over the point where the appendix has been inverted; no area of bowel uncovered by peritoneum. The original suture, uncut, is continued as a second purse-string suture, passing one-fourth inch beyond where it first entered the bowel and one-fourth inch internal. Note carefully the arrangement of the suture. When drawn it can readily be seen how the knot is inverted. The stump shown is the ligated meso-appendix.

In some cases a short mesentery is found requiring separate ligation, and here the stump of the mesentery is covered by peritoneum from the two layers of the cut mesentery.

This operation does not interfere with the action of the ileocecal valve, as there should be no tension on the meso-appendix when finished. The second purse-string is large enough only to cover the stump of the meso-appendix with the serous coat of the cecum.

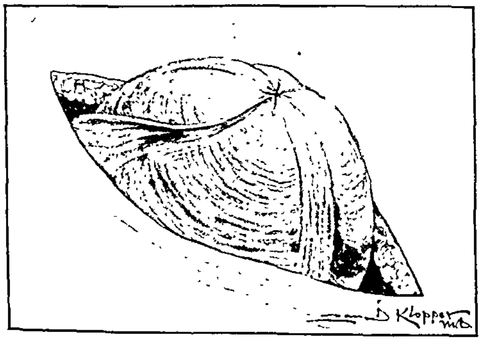


Fig. 5.—Operation completed; knot buried; remains of the meso-appendix are seen running across the cecum, with no area of bowel denuded and no portions of sutures exposed to the peritoneal cavity.

THE CECUM

The movable cecum, producing symptoms, we have anchored with excellent results by the following technic. The more dilated the pouch the more bites we take around its circumference. Without dilatation only one bite is taken.

The sutures (linen) which are inserted on the external wall in order to avoid ligating the vessels (which are in the inner layer of the mesentery), include all the coats but the mucosa, and no harm is done if they should happen to include the mucous membrane.

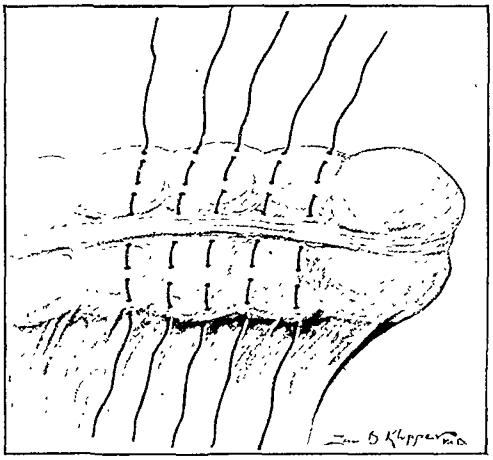


Fig. 6.—The cecum with its elongated mesentery; sutures placed. Note that the sutures have included the external longitudinal band, which gives them a firm hold. See conditions stated in text.

The sutures are then passed through the parietal peritoneum and fascia beneath, taking a bite about one-half an inch wide as close as possible to where the external coat of the mesentery of the cecum is deflected on to the abdominal wall. In this way the cecum swings from practically the same point, but the excursion is lessened. We use from three to eight rows of sutures one-half inch apart, depending on the size of the pouch and ascending colon, the degree of mobility, the age of the patient; the younger the patient the more fixation being required. The degree of constipation is another factor, as we have found often a very loose cecum in patients giving a history of constipation. Here we fix

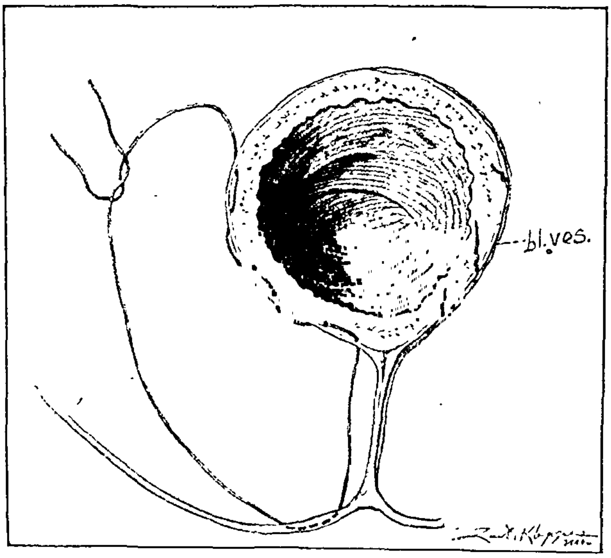


Fig. 7.—A transverse section; the suture passed but not tied. Note that the suture leaves the bowel about where the peritoneum does and takes a bite about where the latter is attached to the abdominal wall. The blood-vessels are on the other side and are never interfered with.

the cecum and half of the ascending colon to give the bowel a fixed point (Figs. 6 and 7).

The appendix is often kinked, requiring removal. The kink described by Lane in the ileum should be relieved by dividing the bands producing it and fixing the cecum high enough so that the ileum approaches it from below, or at least at a right angle.

OBSERVATIONS ON TWENTY-EIGHT PATIENTS TREATED WITH THE EHRLICH-HATA REMEDY (SALVARSAN)

B. C. CORBUS, M.D.
Assistant Professor of Genito-Urinary Diseases, College of Physicians and Surgeons, Medical Department of the University of Illinois
CHICAGO

Notwithstanding the fact that Ehrlich says that the preliminary stage has been closed, one receives the impression from the recent literature on 606 that there are many points still to be settled in almost every phase of the work with this new remedy especially in regard to its administration, prognosis, indications and by-effects. We stand at the beginning of our work; many questions need elucidation, and it is of general interest that results should be collected from many different sources.

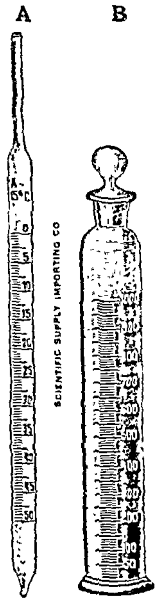


Fig. 1

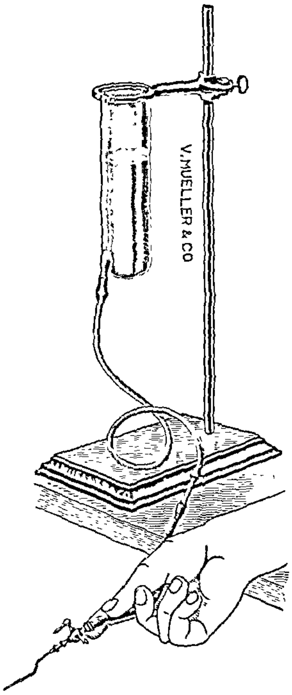


Fig. 2

Fig. 1.—Graduated pipette (A) and large 250 c.c. cylinder (B).
Fig. 2.—Intravenous apparatus.

The difficulty of following the technic according to the directions enclosed with salvarsan is apparent, for here one is told vaguely to use an intravenous method, a neutral suspension or an alkaline solution. At the present writing, the intravenous and the alkaline solution methods are the most popular in European clinics, but still each clinician is endeavoring to push his own method regardless of whether or not the other method is the superior.

From my personal experience with salvarsan (606) I believe that, while it is applicable in every case and attended by fewer symptoms afterward, the intravenous method, on account of the rapid elimination of the arsenic is greatly inferior to the intramuscular alkaline solution method of Alt and Lesser, and as a consequence should not be used in preference to all other methods. The same is equally true of the alkaline solution method.

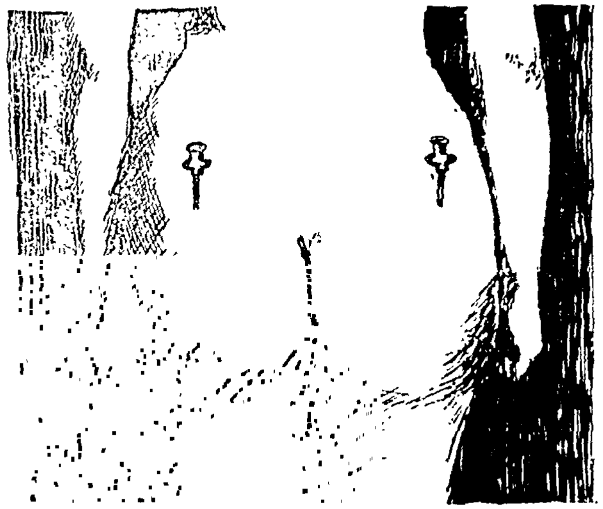


Fig. 3.—Site for injections.

Each case should be treated individually with special reference to the following points:

1. Duration of infection.
2. Severity of infection.
3. Condition and age of the patient.

In all early infections (by this I mean those that come under observation before the Wassermann reaction is positive) the intravenous method is especially indicated. Here subsequent treatments may be given the same way on an average of every ten days for three or four times. This form of treatment applied in such a case is ideal, as the solution in the blood-stream is able to act on the spirochetes with deadly effect. In my opinion, the value of this method decreases in direct proportion to the length of time of the infection, as in the later stages the spirochetes are so securely entrenched by the pathologic-anatomic lesions that the intravenous injection has only a minimum effect on the condition. This is borne out by Mickley[1] in Lesser's clinic. However, in paresis and in malignant lues, where quick action is desired, this is the only method that should be employed.

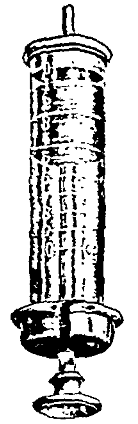


Fig. 4.—Record syringe.
Fig. 5.—Needle (21 gauge) used in Record syringe.

INTRAVENOUS TECHNIC

The instruments are one large 250 c.c. cylinder (Fig. 1, B), filter-papers, one funnel, one intravenous apparatus, like the accompanying cut (Fig. 2), one graduated pipette, (Fig. 1, A), and one stock bottle of normal sodium hydroxid solution (4 per cent.). The instruments and filter-paper having been previously sterilized (which may be accomplished for the latter by moist heat and later drying between sterile towels), also the ampoule of salvarsan and the file by immersion in alcohol; the ampoule is dried, opened with the sterile file and the contents poured into the cylinder. As this salt goes into solution very much more readily than the earlier supplies of the substance, it is not necessary to add any glass pearls to assist in the mixing. Fifteen c.c. of hot water are added; the hotter the water, the more quickly the substance will go into solution. Next normal sodium hydroxid solution is added, about 2 c.c., and shaken thoroughly. A precipitate occurs. Then sodium hydroxid solution is added, drop by drop, the solution being shaken after each additional drop until it is absolutely clear, care being taken not to add any excess of NaOH. Next distilled water is added up to 200 c.c. The whole is then filtered into the receptacle which accompanies the intravenous apparatus. Here the outlet is in the side of the cylinder, slightly above the bottom, forming a little receptacle that holds any foreign material that may get into the cylinder, thus ensuring a more perfect solution injected. It is not necessary to use normal saline solution, as the above solution is very nearly isotonic. Next, the arm is thoroughly scrubbed and a constrictor is placed above the elbow. After taking care that the solution runs through the tube and needle easily and that it is not above 98.6 F., and that the air bubbles are all extracted, the needle is thrust into the vein, great care being used not to puncture the vein except in one place, for any of the solution elsewhere than in the vein will produce a marked paraphlebitis. With the two-way cock attachment, it is easy to tell when one is in the lumen of the vessel, as the blood will come pouring out. Then it is an easy matter to remove the constriction, turn the cock, and send the solution into the vein. With the cylinder raised 28 or 30 inches above the patient's head, and with an 18 or 20 gauge needle the solution will pass in easily in about seven to twelve minutes.

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[1] Mickley: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1903.

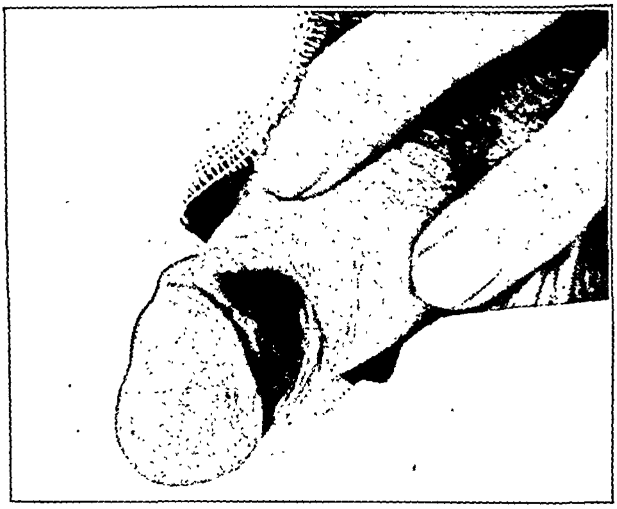

Fig. 6.—Indurated primary lesion, Nov. 3, 1910 (Case 1).

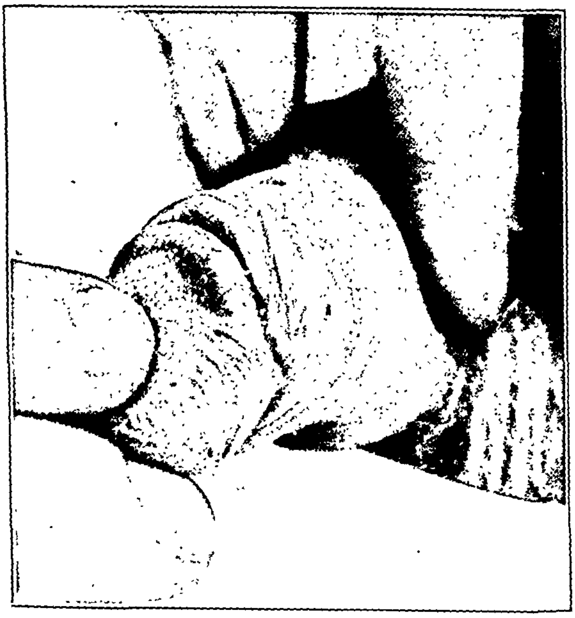

Fig. 7.—Healed lesion in 12 days, Nov. 15, 1910 (Case 1).

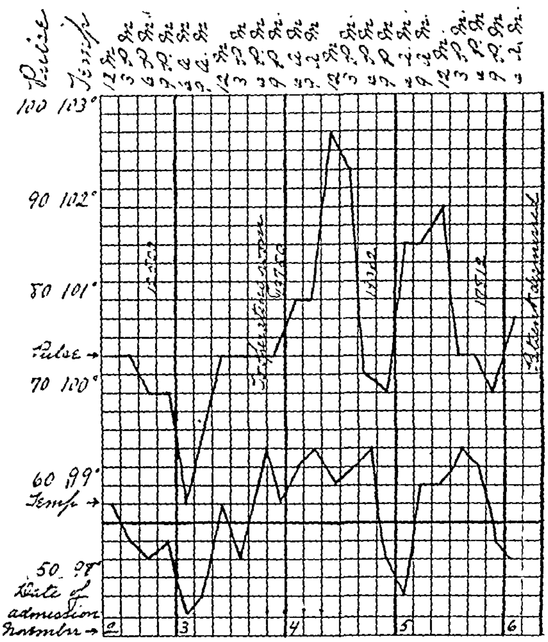

Fig. 8.—Chart showing pulse, temperature and leukocyte count of a case of primary lues (Case 1). This patient came under observation before the secondary eruption but after the Wassermann reaction was positive. The leukocyte count went to 19,062. This is the average in this class of cases. This patient has had two injections, the Wassermann becoming negative and remaining so after the fifth week.

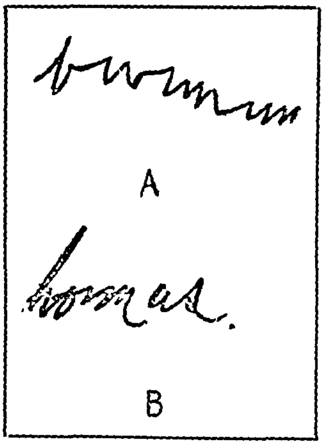

Fig. 9.—Handwriting of a patient with cerebrospinal syphilis occurring during the secondary manifestation (Case 4). A, portion of patient's name written by himself the day before injection, Oct. 17, 1910; B, same portion of patient's name written by himself two days after injection.

It is true that filtering the solution may seem to be superfluous, but often the salt agglutinates and there are small gelatinous-like particles that do not dissolve;

and again sometimes there may be some splintering of glass in opening the ampoule. Therefore, in order to carry this technic out in the best possible manner, it is necessary to have a perfect solution. When the solution has passed into the vein the wound is closed with a collodion dressing.

TECHNIC OF ALKALINE SOLUTION

The materials are: 15 c.c. graduated cylinder with glass stopper, tube of salvarsan and file, which have been previously sterilized with alcohol, one graduated pipette, stock bottle of normal sodium hydroxid solution and one 4-ounce beaker. It is best to sterilize the glassware with dry heat. The salvarsan is placed in a graduated cylinder with glass stopper; 15 c.c. of hot water are added immediately; the solution is shaken vigorously until every particle of the salt is dissolved; then 2 c.c. of normal sodium hydroxid solution are added; a precipitate occurs. Then the sodium hydroxid solution is added drop by drop, being shaken vigorously after each addition, until the solution becomes perfectly clear, avoiding any excess of NaOH; then hot water is added enough to make 20 c.c. of the total solution. Then 10 c.c. of this solution are injected deeply into the buttocks on either side (Fig. 3), care being always taken to cleanse the parts with soap, water and iodin, and to cover them after the injection with absorbent cotton and flexible collodion.

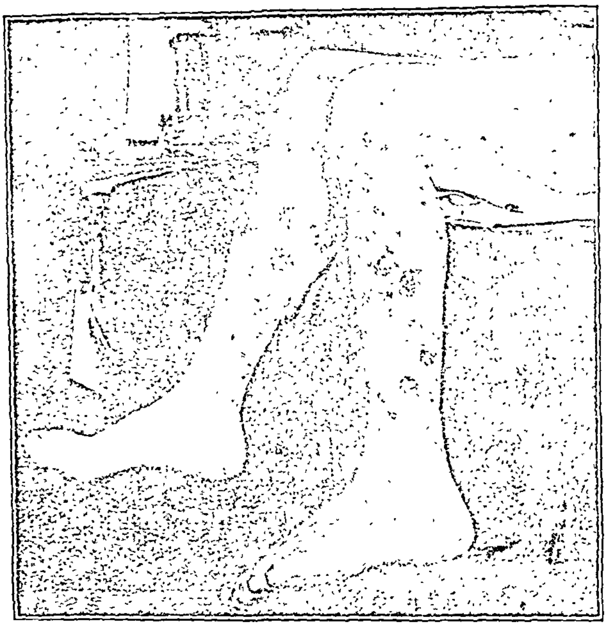

Fig. 10.—Severe secondary syphilis; papulopustular ulcerative syphilid of the legs (Case 5).

The syringe used (Figs. 4 and 5) is a Record with a twenty-one gauge needle as seen in the cut. The best place to give the injection is in the outer quadrant of each buttock, carrying the needle in at a slant of 45° from above downward as is shown in the illustration, to permit the solution to gradually separate the muscles. The patient should always be put on the abdomen or side for half an hour. This is the method employed in Lesser's clinic.

DOSE

According to the printed instructions which accompany the ampoule of salvarsan, the average dose intravenously is 0.3 gm. for women and 0.4 gm. for men. This is entirely too small and will surely be followed by recurrences, as has been proved by Alt and Schreiber,[2] Miekley[1] and others. One can safely give the full contents of the ampoule, 0.6 gm., to men, and 0.5 gm. to women unless they are otherwise affected by disease. And it is safe to follow this up after four or five days with an alkaline intramuscular solution of the same strength, or again in ten days with the same strength intravenously. I have repeatedly given the injection intravenously followed by an intramuscular injection in five days, and in numerous occasions I have repeated the intramuscular injection five weeks later, using 0.6 gm.

I have sent all of my patients to the hospital for their first injections, but being encouraged by the absence of symptoms I attempted with some patients to give the second injection in my office. This, however, I find is not at all satisfactory, for in some of these cases the shock which followed the injection was extreme, and the patients were not able to go home for some hours. I have repeatedly given the injections interscapularly into the muscles of the back and at the angle of the scapulæ into the latissimus dorsi muscles, but I cannot see the superiority of this location over the injection in the buttocks, except that it permits the patients to get around a little more easily. Some observers have used a local anesthetic following or preceding the injection, but as the pain is only transitory and of much less severity than that which occurs later, I cannot see that it has very much value. Dr. Marks[3] recommended 1 c.c. of 2 per cent. phenol, to be mixed and administered with the injection. I have administered a rectal suppository containing 1/4 grain of opium, which seems to act very well.

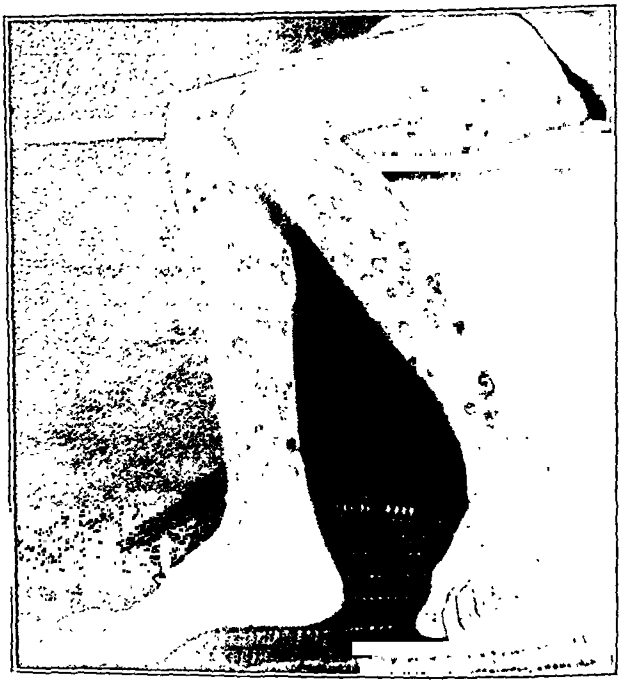

Fig. 11.—Only pigmentation and slight scaling left after thirteen days (Case 5).

At the present time it is best to treat all nursing children by a previous full-dose injection into the mother. If this cannot be done, the alkaline solution is injected into the buttocks, and the dose should be from 0.02 to 0.03 gm., depending on the age of the patient.

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[2] Alt: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1896. Schreiber: Ibid, p. 1898.

[3] Marks: Interstate Med. Jour., Jan. 1, 1911, p. 32.

MODE OF ACTION: INTRAVENOUS METHOD

If the solution is placed directly in the blood-stream, the specific acts immediately on any spirochetes that happen to be there and it depends on the larger or smaller number of organisms in transit through the lymphatic or blood-stream whether the symptoms which follow are more or less acute.

There is a period of quiescence following the injection for about five or six hours, then there occurs general malaise, followed by a chill, abdominal cramps and vomiting. The cramps and vomiting may be repeated and last several hours, the temperature rising sometimes to 102 or 102.5. As a rule by another six hours it is normal.

This is typical only of those cases in which the spirochetes are easily accessible. In one of my cases with an extensive papular eruption, there were only abdominal cramps and diarrhea. There is no question but that the intravenous method in proper hands is good, as it is followed by practically no unfavorable symptoms, but in order to obtain a maximum amount of effect it must be repeated again and again. The only danger lies in a puncture of the vein, with consequent paraphlebitis taking place.

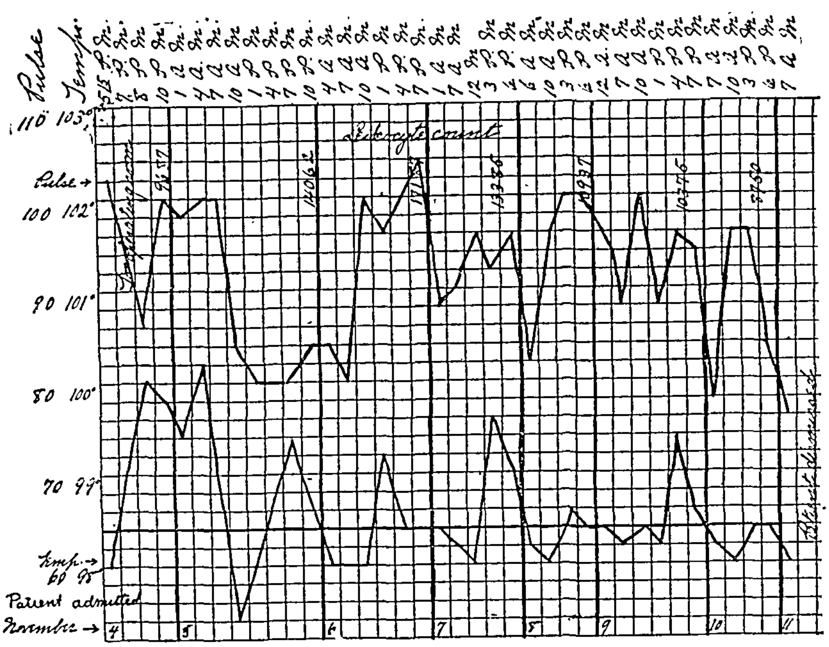

Fig. 12.—Chart showing pulse, temperature and leukocyte count in Case 5 (see Figures 10 and 11). The temperature and pulse ran a little higher here, but the leukocyte count went to 17,187. This patient has since had two injections, but fails to obtain a negative Wassermann reaction. He has since been put on mercury treatment.

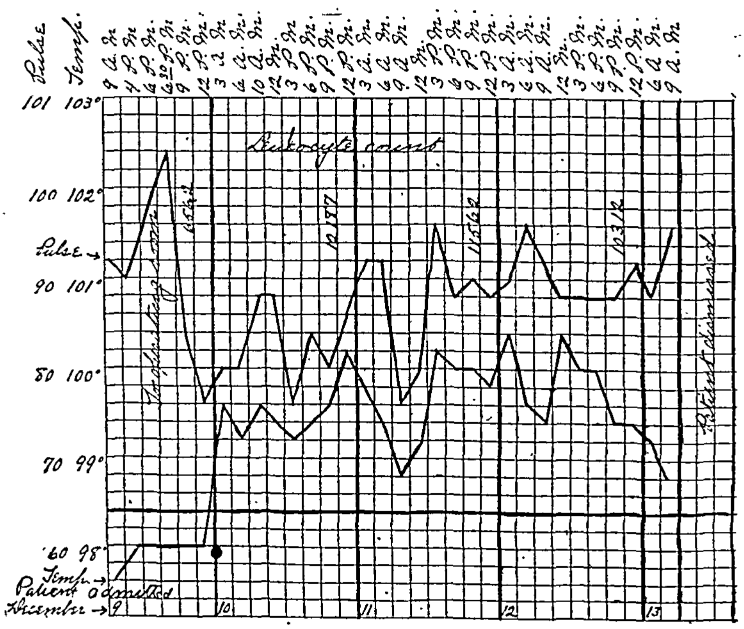

Fig. 13.—Chart showing pulse, temperature and leukocyte count of a case of Erb's spinal spastic paraplegia of syphilitic origin. This count is low, as was the case in all patients treated in whom the infection was of long duration and characterized by minimum destruction of tissue.

MODE OF ACTION: INTRAMUSCULAR METHOD

In order to avoid attacks of fainting and shock, which at times accompany the injection (I must say that this liability is greatly lessened with the newer salt, salvarsan) it is best to place the patient lying on the abdomen and always to disconnect the needle to see if there is any hemorrhage present. It has not been necessary except in a few instances to administer any opiate; and the more remote the infection, the less severe, correspondingly the reaction has been, so that in some of the tabetic patients who were treated, the local reaction was practically nil. Since I have been carrying my injection well to the outer margin of the buttocks, the ensuing neuritis has been practically absent. Frequently the pains are severe, radiating down to the foot, simulating a severe sciatica, but as a rule in several hours they pass off. When these injections were given into the muscles of the back, the referred pains in the abdomen, the arms and the hands were often very severe.

Over the site of the injection there comes an acute sensation of pain, which usually lasts about five to six hours. This is replaced by a dull sensation and a feeling of stiffness that rapidly changes to pain, reaching its maximum on the third to fifth day. Following the injection the area soon becomes boggy and red, resembling erysipelas in the severe infections, so that the patients are not able to sit down. This also does not, as a rule, reach its maximum effect until the third or fifth day.

Sweating.—This occurs in every case in which there is any systemic infection, but in none of my cases was it ever due to any extraneous organisms. It is caused by the endotoxins that are formed from the killed spirochetes. It usually begins the first night following the intramuscular injection and may continue for ten days. It usually reaches its maximum effect the third to fifth day and then gradually subsides. It is not present after the second injection in such a perceptible degree.

Using the neutral suspension, numerous cases of abscess have been reported. This is attributed either to the method of preparation, as in this way it is not easily kept sterile, or to the fact that the salt injected subcutaneously acts as a foreign body.

In none of my cases has there been the slightest sign of abscess, but unless the strictest asepsis is carried out, this surely will happen as a complication.

As a rule the swelling subsides rapidly and is fairly well absorbed at the end of the second week. Some nodules may remain unabsorbed for many weeks. This is particularly true after the more concentrated solutions. For a time I prepared my solution with a 20 per cent. solution of sodium hydroxid, dissolving the salt in 9 c.c. of water, so that when finished the whole dose was contained in 10 c.c. of solution. This in particular was followed by considerable pain and by nodules.

The personal element, however, plays an important rôle in regard to the effect of the injections. Women as a rule, bear them better than men.

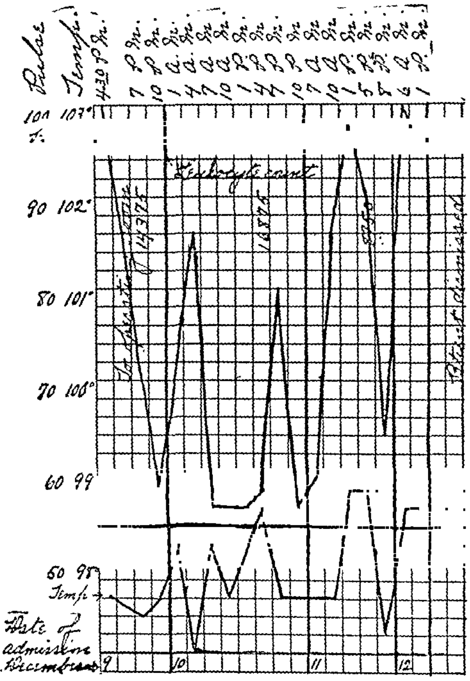

Fig. 14.—Chart showing pulse, temperature and leukocyte count in a case of latent syphilis complicating pulmonary tuberculosis. The count here is a little below average, but the local reaction was most severe. After five weeks his Wassermann reaction remains positive.

If the pain is severe, hot sitz-baths together with hot applications are of most benefit. The insomnia that follows after the injection, while at first due to the pain, is later the result of the stimulating effect of the arsenic. The general condition may remain undisturbed, though there may be loss of appetite, and malaise, but this passes off rapidly and in a week there is a wonderful stimulation (as Fritz Lesser[4] calls it, "the organotropic effect of the arsenic"). There is an increase in weight and general nutrition, including an improved blood-picture.

In a few cases there were numerous urticarial rashes after the second day. These, however, were transitory and caused practically no inconvenience.

The Herxheimer reaction was present numerous times (local irritation of spirochetal foci); but it was most marked in late secondary manifestations. In one instance, I excised a dactylitis syphilitica, believing that it contained pus, but it was nothing more than a local reaction.

Urine.—There have been no quantitative examinations made for arsenic. Albumin and casts have been found numerous times, but these were always transitory. A most careful examination of the urine was made of the patients who had received the second injection, and only in two instances were there any symptoms of renal irritation.

Temperature.—In the majority of cases the temperature was influenced but slightly, rarely going beyond one hundred degrees, often remaining perfectly normal; but occasionally there was a sharp rise, especially if the combined method had been used and the first injection had happened to kill a large number of spirochetes.

Pulse.—This varies with the degree of pain and the general condition. Of course, being a new form of treatment, the suspense and excitement often cause an unnatural rise.

Leukocyte Count.—In all cases a careful count was made from day to day and it can be safely said that there is a direct relationship between the relative number of killed spirochetes and the leukocyte count. In all cases in which the infection was recent and at all active, the leukocyte count was relatively high. In one case following an intravenous injection it went to twenty-eight thousand. Repeatedly, following the intramuscular injection, the count went from seventeen to nineteen thousand. On the other hand, in all cases in which the infection was at a minimum (this is especially true of tabetics) there was only a slight leukocytosis. As Neisser[5] has shown, there is no reaction in healthy non-syphilitic patients. We might, then, use this method in a measure to ascertain whether our treatment has been effective.

REPORT OF CASES

At the present writing I have treated sixty-two patients. I wish, however, to report on twenty-eight cases in detail, as the others have not been under observation for a sufficiently long time.

The medical examinations were made by Dr. Milton M. Portis and the ophthalmologic examinations were made by Dr. Cornelius A. Leenheer.

These cases include:

1. Primary syphilitic lesions after the Wassermann reaction was positive, but before there were any secondary skin manifestations.
2. Early secondary syphilitic lesions.
3. Late secondary syphilitic lesions.
4. Tertiary syphilitic lesions.
5. Syphilis of the nervous system.
6. Latent syphilis with only a positive Wassermann reaction.

Unfortunately, I was not able to observe a primary lesion sufficiently early to show only a negative reaction, and as a consequence I was not able to apply Ehrlich's theory of *therapia sterilisans magna* in an ideal case.

1. Primary syphilitic lesions after the Wassermann reaction was positive. In this series there are four cases.

Case 1.—The patient, J. F., 19, single, came under observation on Oct. 31, 1910. There had been an incubation period of fifteen days. The sore had been present three weeks at the time of examination. A few spirochetes were found. The Wassermann reaction was positive.

On Nov. 3, 1910, an injection of 0.5 gm. (10 c.c. of solution) was made into each buttock. The first picture (Fig. 6) was made Nov. 3, 1910. Complete healing took place in twelve days (Fig. 7). A Wassermann examination Nov. 28, 1910, was negative. On Dec. 12, 1910, a second injection was made, 0.6 gm.

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[4] Lesser, Fritz: Berl. klin. Wchnschr., Oct. 24, 1910, p. 1975.

[5] Neisser: Berl. klin. Wchnschr., Aug. 8, 1910, p. 1485.

in concentrated alkaline solution. On Jan. 8, 1911, Wassermann still negative. On Nov. 28, 1910, I excised the remaining sclerosis at site of the primary lesion and this was examined for spirochetes by Dr. Maximilian Herzog after Levaditi's method. His report is as follows:

"Microscopic examination showed the mass removed to be composed mostly of granulation tissue which exhibits the characteristic endo-, meso- and periphlebitic vascular changes generally so well marked in primary and secondary syphilitic lesions. No spirochetes could be found in the silvered section, however."

It is needless to say that I realize that in due course of time the spirochetes would migrate from the lesion without any treatment whatever, but we had a considerable amount of granulation tissue left at the site of the primary lesion. The Wassermann reaction was negative and it was a question whether or not any organisms remained locked in the tissue, being so insignificant as not to produce a positive Wassermann.

Iversen[6] has followed out the same idea by examining the inguinal glands for spirochetes. He examined ten patients, three to five days after treatment and although the spirochetes had been present in great numbers before the injection, they were absent afterward.

In the above case there was a more perceptible reaction following the second injection, general malaise, chilly sensations and nausea. This, I felt, was due to an anaphylactic reaction, but in the light of similar conditions in other patients, I attributed it to the action on the spirochetes with resulting endotoxemia, the general condition of the patient being wonderfully good.

CASE 2.—The patient, M. E., was given a combined treatment, intravenous injection followed in five days by an intramuscular injection. After the intravenous injection he suffered a violent attack of chills, vomiting and abdominal pains, with a temperature of 102 F., which promptly receded the following morning. In three weeks he gave a negative Wassermann reaction, which four weeks later, on Jan. 8, 1911, was still negative.

I have used the intravenous method in the other cases of this series, in none of which was the reaction so acute. This I attribute to the solution catching a large number of spirochetes in the blood-stream, as the injection was given at the time that the first eruption should make its appearance. In the other patients so treated, the eruption had been out many days. The organisms were entrenched, so to speak, in the tissues, consequently the general reaction was not so acute and characterized only by cramps and diarrhea.

Two of the patients in this series have maintained a negative Wassermann reaction; the other two still show a positive reaction. All have had two injections, and no return of symptoms.

2. Early secondaries from one to six months' duration, characterized by skin eruptions and mouth lesions. This series comprises ten cases. The oldest case is of four months' duration, the shortest six weeks. All have had a second injection from the fourth to fifth week after the first, except one case, regardless of whether their Wassermann reactions were negative or positive. In none of these cases has there been any return of external signs of lues.

CASE 3.—The patient, B. B., 18, single, was infected April 1910; chancre on left tonsil. Secondaries appeared May 7, 1910. The diagnosis was secondary lues, only manifested by external lesion in throat.

The patient was put on rubbings which were continued until July 10, at which time there were no external signs of lues. He was put on proto-iodid pills, 1/6 gr. three times a day. In September plaques appeared on both tonsils. On Oct. 17, 1910, the day before treatment, examination for spirochetes showed twenty to thirty in the field. Next morning, October 18, an injection was given, 0.5 gm. of the alkaline solution, 10 c.c. in each buttock. The second day, no spirochetes were to be found; the fourth day, complete healing. Nov. 11, 1910, the Wassermann reaction was negative; likewise on Jan. 8, 1911. Jan. 15, 1911, the injection was repeated, 0.6 gm. The patient's condition was excellent.

CASE 4.—Figure 9 shows the handwriting of a patient with cerebrospinal syphilis that occurred during the secondary manifestations. The patient was infected six months previously and at the time of his cerebrospinal disturbance he had plaques on the tongue, a discrete papular eruption and condylomata. At the time of examination, Oct. 18, 1910, he was suffering from a right hemiplegia, and ptosis of the left eye, the left side of the mouth drooped, there was a slight delirium, incoherent speech, and slight comatose condition. Spirochetes were present in the plaques, and the Wassermann reaction was positive.

The patient was given 0.6 gm. in an alkaline solution into each buttock. The temperature never went higher than 101 1/5 F., the pulse never above 90. Three weeks after injection the man walked into my office in a greatly improved condition. While he could not tell me his home address, he was perfectly able to discuss the topics of the day.

The patient's general improvement has been most striking. He had another injection of 0.6 gm. at the end of the fifth week but the Wassermann reaction still remained positive. He has since gone back to work. Dr. Hugh T. Patrick saw this patient on two different occasions, the first time two days before the first injection and the second time eight weeks later. Dr. Patrick's comment was that the patient was "altogether a different man, but obviously not yet normal."

CASE 5.—J. M., aged 28, married, was infected July 12, 1910. The patient was dissipated and his condition poor. Rubbings with mercury, and potassium iodid internally were employed. This treatment was continued until the time of injection. The Wassermann reaction was positive.

Figures 10 and 11 illustrate an extensive papulopustular ulcerative syphilid that extended over the whole body, but was most marked on the legs. The pictures were taken fourteen days apart, the first on Nov. 13, 1910. The first injection was given Nov. 14, 1910, 0.6 gm. in alkaline solution, 10 c.c. into each buttock. The second picture was taken Nov. 26, 1910. The second injection was given Dec. 11, 1910. The second Wassermann reaction, Dec. 10, 1910, was only slightly positive; the third, Jan. 15, 1911, was again positive.

Five of these patients obtained a negative Wassermann reaction from the third to the fifth week after their first injection. All were injected a second time and have remained negative up to the present writing. The other five have never obtained a negative Wassermann but have been reinjected. There has been no return of symptoms.

3. Late secondaries after the sixth month.

In this series there are eight cases; all the patients have had their infection for six months to two years. All showed either external signs of lues or mouth or throat-lesions.

CASE 6.—The second patient in this series presented plaques on the tongue. These had been present with only slight remissions for one year. The patient was injected in the morning and by afternoon there was sharp bleeding in the lesions and by the second day a thin epithelial covering had begun to form. All healing was completed in one week; at the end of three weeks there was a negative Wassermann reaction; the fifth week a positive reaction. Two days later a second injection was given; this was followed the next day by general malaise, chills, nausea and vomiting; temperature 102° F. The following morning temperature normal.

At first I attributed this also to an anaphylactic reaction, but the incubation period was too short. It was further too late for an acute toxemia following the administration of the salvarsan. My deductions here are the following: The pathologic-anatomic lesions so securely held the spirochetes that the first injection only permitted the outer protecting wall to be influenced, while the second injection then was able to attack a large number of organisms, the patient suffering from an acute endotoxemia following the killing of so great a number. It is just this class of cases in which I believe the intravenous method to be of little value, as the remedy is eliminated before it has time to produce a maximum amount of effect.

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[6] Iversen: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1899.

I have not been able to obtain a negative Wassermann reaction again in this patient, but there has been absolutely no sign of any recurrence. In order that I may not lose the advantage that I have gained over the disease, I have put him on mercury treatment until such a time as I deem it expedient to repeat my salvarsan.

Another patient in this series, in whom I was able one year ago to get a negative Wassermann reaction after rubbing into him 100 grams of mercury, had an ulcerative syphilid in the right nasal opening at the time of treatment and a dactylitis of the middle finger of the left hand.

These lesions showed a beautiful Herxheimer reaction; also the site of the old chancre was affected the same way, showing again that the organisms must be well anchored in the lesion, and emphasizing how little value one can place in a single negative Wassermann.

4. Tertiary syphilis, one case.

This case presented a gumma involving the septum. Healing was prompt, although the Wassermann has still remained positive; but there has been a wonderful nutritional change, the patient gaining twenty pounds.

5. Syphilis of the nervous system.

In this series there are three cases; two cases of tabes and one of Erb's spinal spastic paralysis of syphilitic origin. One of the tabetic patients reports an improvement of pain, but there has been no subsequent Wassermann test. The other tabetic patient after two months shows a negative Wassermann reaction, with a cessation of the pain of tabetic crisis. The patient with Erb's spinal spastic paralysis of syphilitic origin also shows improvement of the vesical and rectal sense and action, lessening of rigidity in the abdominal and leg muscles, disappearance of dragging of toes, increased freedom in movement of right ankle, and improved sensation in right leg, but increased patellar reflexes in both legs and increase of ankle-clonus on right side. The pulse, temperature, and leukocyte count in this case are given in Figure 13.

6. Latent syphilis, manifested only by a positive Wassermann test.

In this series there are two cases.

In the first case there has been no change in the Wassermann reaction after six weeks, but the nutritional change is well marked. The second case was complicated by tuberculosis of the lungs. Here there was also no change in the Wassermann reaction, but nutritional change was marked. The pulse, temperature and leukocyte count are given in Figure 14.

PROGNOSIS

From the many reports that have appeared the prognosis as to the efficiency of salvarsan is good. To believe that we have a twenty-four-hour cure for syphilis is indeed a mistake, but that we have the best means yet discovered to combat syphilis is true.

Unfortunately, salvarsan has a bad heritage and still more unfortunate is the fact that it is somewhat complicated in regard to administration and as a consequence the future will undoubtedly unfold many calamities following its misuse.

That the possibility of a *therapia sterilisans magna* is not a fruitless idea of Ehrlichs is conceded by all rational syphilographers, but for its successful culmination one must see the patient extremely early, make a diagnosis before there is systemic invasion (before the Wassermann is positive), effectually destroy the lesion and give the combined treatment (intravenously and intramuscularly) at the earliest possible moment.

Unfortunately, the syphilographer does not see the larger number of cases early, and for the successful carrying out of the ideal method he will have to depend on the family doctor in order to put these cases under treatment successfully.

The longer a patient has been infected with the *Spirochæta pallida*, the less chance is there for a speedy cure. In my cases, notwithstanding the fact that symptoms disappeared, the Wassermann remained positive in all that were infected longer than six months; and any physician who tells a patient that one injection is going to rid him of his syphilis forever is guilty of gross deception. To give a patient one injection and permit him to wait, is clothing him with a false security, as his symptoms will surely return unless some other form of treatment is added.

At the present writing I am re-treating all my patients in the fifth or sixth week. In those that have gained a negative Wassermann reaction before the second injection, I stop treatment after the second injection. In those that still show a positive Wassermann reaction, I continue the treatment with mercury until such a time as I feel justified in injecting the salvarsan a third time. By so doing, I am not only holding the advantage gained by the action of salvarsan, but am continuing the treatment to the best possible advantage.

Neisser[7] says that in the present enthusiasm over salvarsan we seem to forget that we were *ever able to* cure syphilis with mercury, and he suggests that we use mercury as an ally to salvarsan. Even Ehrlich[8] says that the best way to combat the disease is by different kinds of treatment, the same as a general would attack a hill "from all sides."

The biologic management of the patients after treatment with salvarsan is of the greatest importance if we wish to carry them to a successful termination. In fact, it is the only method available of controlling the disease before external manifestations occur.

A patient in whom the reaction persists after treatment must be considered as not cured. If the reaction disappears we have to differentiate between two possibilities: either we may have a true cure, which is indicated by the lasting disappearance of the reaction, or on the other hand, we may be dealing with a transitory negative phase, due to the fact that the remaining spirochetes are so diminished that those still left are not able to produce a reaction, and when they have again increased in number a positive reaction will again occur. This positive relapse without external manifestations is an indication for further treatment.

CONCLUSIONS

1. We have in Ehrlich's remedy a powerful agent against syphilis.

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[7] Neisser: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1889.

[8] Ehrlich: Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1893

2. A single injection has in favorable cases approximately the same result as four to five months' treatment with mercury and iodin.
3. It may show a brilliant effect in cases in which mercury and iodin have failed.
4. Salvarsan has advanced the treatment of syphilis in a decided manner, but on account of its strong arsenic content, repeated doses may have a disastrous effect on the human organism.
5. Every physician should master the technic before attempting to use it. Only in this way will the drug be safely guarded from many pitfalls.

In closing I wish to thank Dr. Joseph L. Boehm, of St. Louis, for his kind suggestions and Dr. D. N. Spaulding, Dr. John H. Fletcher, Dr. R. Dawes, Dr. D. Borges, Dr. H. H. Redfield, Dr. J. H. Nowlin, Dr. J. D. Bartlett, Dr. G. H. Stannard, and Dr. Nelson Percy for their kindness in referring a part of my material to me.

100 State Street.

INTRAPERITONEAL SHORTENING OF THE ROUND LIGAMENTS FOR RETROVERSION OF THE UTERUS

THROUGH THE TEMPORARILY DILATED INGUINAL CANALS AND INTERNAL RINGS, WITH CLOSURE OF THE WOUNDS BY A CAREFUL HERNIA TECHNIC *

A. GOLDSPOHN, M.S, M.D.
Professor of Gynecology in the Post-Graduate Medical School, and Senior Surgeon and Gynecologist to the Evangelical Deaconess Hospital of Chicago
CHICAGO

Eleven years ago, at the Columbus session[1] of this Association, I took the initiative in this country in assailing the various fixation and artificial ligament operations for retroversion and flexion of the uterus in women who retain a capacity to conceive. At that time the results of such wrong and misdirected surgery already began to appear on the continent of Europe, and no great amount of erudition in *a priori* reasoning was required to foretell what the outcome of the same would be with us. A rationale on anatomic and physiologic grounds was then presented, showing a direct antagonism between the interests in the technic of such operations and the interests of the uterus in gestation and parturition; that either only futile or temporary results on the one hand or disasters on the other would result in a large proportion of cases. I was free to do this because it had been my good fortune to supplant the superficial, blind and incomplete simple Alexander operation in my practice, with a thoroughgoing intraperitoneal bi-inguinal procedure, which I had then performed over 100 times and of which I reported the remote results after an average period of two years in forty-seven cases, two months later, August, 1899, at the Amsterdam meeting[2] of the International Congress of Obstetricians and Gynecologists.

No other operation for retroversion of the uterus has been so carefully studied and so severely tested as to its ulterior results by so large a number of operators as has the Alexander operation. Most operators, especially the devotees to the fixation and artificial ligament procedures, have reported the status (often the subjective condition only) of their patients only up to the time when they left the hospital, or when they received an oral or written statement from them, or to the time of a childbirth, without regard to the position and condition of their pelvic organs after childbirth, or to the possible existence of some other concurrent affection. This is grossly insufficient and unworthy of notice by a scientific body or by a decent medical journal. Likewise it is not enough to depend on the patients' statements of their subjective conditions, but their objective anatomic status must also be obtained by a careful examination; and both the subjective and objective findings should be taken after an average interval of two years has elapsed.

Since pregnancy and childbirth are the chief functions of these organs and involve the most signal metamorphoses in them, these reproductive physiologic achievements must also be accepted as the normal standard by which to gage the merits and demerits of operations on these organs. My "double test of pregnancy" implies that the given procedure does not hinder pregnancy or induce complications for labor. This simple test of pregnancy will be readily passed by the multitude of procedures on the round ligaments, by the artificial ligament operations in most cases and the seroserous fixations in many cases, but the severer crucial or double requirement, that displacement of the uterus will not recur after one or more subsequent labors, has been proved to be met successfully only by some of the round-ligament operations, and by none of the artificial ligament or fixation procedures in an acceptable percentage of cases. According to all real evidence or proof, so far as recorded, only round-ligament operations, and of these only those that do not place dependence on the tapering and useless distal ends of these ligaments to do any holding, are able to pass these severe but normal requirements successfully in an acceptable percentage of cases. The plain reason for this is that the round ligaments are a part of the uterus, and as such undergo with it both evolution (not stretching), during gestation and involution after labor, which is not true of any fixation or artificial ligament that human ingenuity or conceit may devise. That fact excludes all such operations aside from (1) bi-inguinal (Alexander) operation, and (2) transplantation of round ligaments into the abdominal wall by some one of the numerous minor variations in technic, all of which are fundamentally correct in principle.

What is the record of the bi-inguinal operation? In my last summary of this subject before this Section, five years ago, I reported twenty-two cases of my own, each of which had passed the double test of pregnancy successfully, after previous intraperitoneal bi-inguinal shortening of round ligaments, with the Bassini hernia technic in closure of the wounds, and with these I reported a collection of 147 similar cases by twenty-five other operators, making in all 169 double test cases. Among these were only three failures, and these were for cause: namely, two cases of prolapse in which the undue elongation of sacrouterine ligaments contraindicated round-ligament shortening alone, and in the third case it was due to violent intrauterine manipulation and infection by a midwife. To this collection of 169 cases there now to be added 115 more such double-test cases by the following operators: 18 by Epstein,[3] 7 by Fuchs,[4]

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Goldspohn, A.: The Uterus; Why Vaginofixation, Ventrofixation and Ventrosuspension Thereof Should Be Avoided in Cases That Retain Any Capacity for Conception. THE JOURNAL, A. M. A., July 22, 1899, p. 181.

[2] Goldspohn, A.: Am. Jour. Obst., 1900, xli, No 5.

[3] Epstein: New York Med. Jour., 1905, lxxxi.

[4] Fuchs: Zentralbl. f. Gynäk., 1905, pp. 613, 648.

26 by Tillmann,[5] 14 by J. W. Taylor,[6] 28 cases by Hannes (Kustner),[7] and 22 cases by Leese.[8] Some of these operators mention a recurrence rate of from 3 per cent. to 4.5 per cent., which probably applies also to the patients that bore children. If so, we have 284 cases examined after one or more childbirths, with an average recurrence of displacement of less than 4 per cent. With such a record the results of all other operations for this purpose—aside from the transplantation of round ligaments—are not to be compared.

The recurrences have become much less frequent with those operators who have discarded the old extraperitoneal method and have drawn the ligaments out more thoroughly after dissecting back the peritoneal investment in the properly opened canal and internal ring, and have noted the proper degree of advancement of the fundus through the same. Very many operators have followed my lead to that extent in this matter, but only a small number of them have followed me to the full extent of severing adhesions by introducing a finger or two through the dilated internal ring of each side, drawing the tube and ovary into or out of this opening and resecting or removing them, as may be indicated. The ovary and outer half of the tube are suspended from the broad ligament at a point just back of the internal inguinal ring and are often drawn out of that opening more easily than into a median ventral incision. In breaking up adhesions no decent operator makes anywhere in the abdomen the enormous incision that would be required, together with more or less evisceration, in order to see these adhesions down in the true pelvis. We all sever such adhesions by the sense of touch alone no matter by what route they are reached. This route should not be chosen for patients with immovably fixed uteri and adnexa with indurations, etc., because this would be dangerous and a waste of labor in such cases, for the patients do not become pregnant whatever the procedure used. Their tubes are too badly injured, and therefore they are well enough served by some simple fixation or duplication of round ligaments, by way of a median section.

The reasons commonly advanced against my intrapelvic work in my bi-inguinal celiotomy, via the dilated internal rings, are not at all the reasons why I have practically discarded this operation in recent years. I did it in over 200 cases, together with curettage and operations on the cervix, perineum or rectum *in most* of them, with a mortality of less than 1 per cent. I had twenty-two cases crucially tested by pregnancy and labor, without abnormality or a sign of a recurrence or of a hernia in any of them. My total recurrences of displacement were less than 1.5 per cent. without ever resorting to a pessary after operation. The reasons why I have practically discarded this operation are as follows: (1) violent appendicitis has occurred within a year or two in a number of cases in which I had the opportunity to remove the appendix, and did not do it because of sentimental reasons and because it seemed to be, and always to have been, normal; (2) according to several writers, and according to sensible *a priori* reasoning, cecostomy is preferable to appendicostomy when indicated for treatment of the colon, and (3) we find this wholly useless vestige, club-shaped or otherwise, disposed to make trouble in so large a proportion of cases, which in the past have been free of plain attacks of appendicitis. Therefore I am convinced as to my duty to remove this menace nearly always, especially when I open the abdomen for a relatively minor indication such as ordinary uterine displacements are. This cannot be done safely through the inguinal canal as a rule.

Furthermore, it is often desirable to palpate the gall-bladder, the pylorus or a kidney, in conjunction with an operation for pelvic disorders, or to resect a dilated linea alba. All these can be done if a median ventral incision is chosen and enlarged when necessary. By the same incision the uterine displacement can also be cured in a creditable manner by transplantation of round ligaments into the abdominal wall; therefore this only real competitor of the Alexander operation properly becomes its successor. But in recent years a compromising combination has been made between a median laparotomy and shortening of round ligaments in the inguinal canals after Alexander's method. Both of these acts are done by way of a straight or curved transverse suprapubic incision, which need not always be made through the aponeurosis of the recti muscles. This affords sufficient opportunity for the required median section and also access to the inguinal canals for the Alexander operation, under intra-abdominal control of the proper degree of shortening of each ligament. This in substance has been done by Peterson,[9] Rumpf and Palm,[10] Werth,[11] Kustner,[12] Littauer,[13] and Broese,[14] and promises to become a standard procedure. The Alexander operation, thoroughly performed, however, with its principles and monumental results, before mentioned, has led the way to such still more salient procedures. It can, therefore, well rest on its laurels if it is never performed again.

But to those operators, if any there be, who are still performing the original so-called extraperitoneal (?) Alexander operation, especially if without opening the inguinal canal, I would like to say with something louder than the human voice and words that they are not doing their duty by their patients; that their implied promises of best efforts and normal services held out to these patients are tinctured with fraud. This type of operation should certainly be banished, because, first, as I have repeatedly stated, the adhesions of the ovary and the outer end of the tube are much more frequent than of the uterus itself, because in their vicinity infection by way of the tubes comes first. Adhesions of these small structures are very difficult to discover and are often not suspected when the uterus is movable. They are formed on these adnexa in their descended location, to which they sank with the retroverted body of the uterus. When the latter is brought forward into anteversion the adnexa cannot follow, being fixed at a lower plane. The enforced tension on these structures entails discomfort to the patient, and the direction of this traction, being opposed to that of the extraperitoneally (often imperfectly), shortened round ligaments, endangers their integrity and tends to induce a return of displacement of the uterus. Such adhesions of adnexa, beside a free uterus, are severed with the greatest ease by a finger within the internal ring, which, fortunately, is just in front of the parts.

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[5] Tillmann: Beitr. z. klin. Chir., 1907, lv, 318.

[6] Taylor, J. W.: Jour. Obst. and Gynec. Brit. Emp., 1907, xii, 415.

[7] Hannes: Zentralbl. f. Gynak., 1908, No. 49.

[8] Leese: Monatschr. f. Geburtsh. u. Gynäk., 1909, xxix, 448.

[9] Peterson, R.: Surg. Gynec. and Obst., 1906, iii, 85.

[10] Rumpf and Palm: Ztschr. f. Geburtsh. u. Gynäk., lix, No. 1.

[11] Werth: Zentralbl. f. Gynäk., 1909, No. 14.

[12] Kuestner: Zentralbl. f Gynäk., 1909, No. 2.

[13] Littauer: Zentralbl. f. Gynäk., 1909, p. 833.

[14] Broese: Zentralbl. f. Gynäk., 1909, pp. 668, 1256.

Secondly, the round ligament does not slide or pull out from the broad ligament enough, once in every four or five individual instances (according to careful observation on this point in fully 130 cases), without some scissor-clips on the front blade of the broad ligament, which is always drawn forward into the ring. The shortened ligament then remains, pulling forward from the broad ligament at a point distant from the uterus, and therefore with little or no good effect on the displaced fundus uteri. This condition is very easily discovered by pulling on the broad ligament while the index-finger of the other hand is placed against the uterus through the ring, and it is just as readily relieved.

Thirdly, in the not infrequent cases of retroversioflexion, with a heavy fundus, the center of gravity of the body of the uterus is often posterior to a line joining the points of origin of the round ligaments, while the posterior cervical supports are elongated. In this condition the round ligaments will have to be dissected out extensively from the broad ligaments, usually along with a generous strip of enveloping peritoneum, and they must be given a new course quite directly forward; otherwise traction on them from the inguinal canals is quite as likely to bring the cervix rather than the fundus forward.

That extraperitoneal (?) shortening of round ligaments is insufficient, is shown by the high percentage of recurrences of displacements, even in cases that have not been tested by pregnancy. Longyear,[15] including two cases in which he could not find both ligaments, had 12.5 per cent. failures. Hannes (Kuestner)[16] had three recurrences of displacement after nine operations performed extraperitoneally, while after sixty-two operations done with opening of the canal and peritoneum and more thorough elaboration of ligaments, the patients were found, two years later, to be without any recurrence of displacement.

CONCLUSIONS

1. The improved Alexander operation thoroughly performed has more good and approximately perfect results recorded to its credit than, so far, are recorded to the credit of all other operations combined that have been performed chiefly for retroversion of the uterus.

2. No Alexander operation should ever be performed without digital exploration within the pelvis through both internal rings, to prove that no adhesions remain, and to prompt and facilitate an adequate dissection of the round ligaments from the broad ligaments to give the former a sufficiently forward course to hold the fundus uteri forward effectively.

3. Prolapse of the uterus, or retroversion due chiefly to elongation of the sacro-uterine ligaments, should be treated by shortening these ligaments, when possible, or by attachment of the psoas parvus tendon or a portion of the psoas magnus muscle to the back of the cervix, in the manner suggested by Harris,[17] and never by shortening of round ligaments as the chief act.

4. Inasmuch as transplantation of round ligaments into the abdominal wall by some one of the numerous minor variations in technic, secures a creditable correction of retroversion in most cases by way of a median incision, which is also available for appendectomy, and various desirable explorations within the abdomen, this manner of operating has largely and properly superseded the general type of operating by way of the inguinal canals.

5. A plan of operation that is still more correct anatomically and surgically, has, in recent years, been carried out by at least seven operators with satisfaction. It consists in doing first, a sufficient median laparotomy and the required intraperitoneal work, and secondly, in shortening of round ligaments within the opened inguinal canals themselves, both by way of a transverse suprapubic incision, either straight or curved upward and extending through the aponeurosis of the recti muscles, as may be required.

2120 Cleveland Avenue.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. COFFEY,* BALDY, GILLIAM, SIMPSON, DUDLEY AND GOLDSPOHN, FORMING A SYMPOSIUM ON OPERATIONS FOR RETROFLEXION OF THE UTERUS

DR. E. E. MONTGOMERY, Philadelphia: It is with considerable hesitation that I speak when the inventors have presented their various operative procedures. I class myself as an adjuster rather than an inventor. The number of operations that have been introduced for correcting and maintaining the uterus in its proper position is evidence that none of these has been exactly what was necessary in all cases, and I would not come to-day to advocate any particular operation as an absolutely sure cure in every case that might present itself. I have lived long enough in the profession to have gone through the various procedures that have been devised from time to time for this purpose. I have, of course, practiced the operation of ventrosuspension and ventrofixation. I had the misfortune in performing this latter operation in one case to have a knuckle of intestine slip around the band of adhesion and the patient die as the result of the constriction of the intestine. This accident led me in doing the Gilliam operation to obliterate the space on either side in which the intestines might slip through. Later I utilized the procedure of Dr. Simpson with that of Dr. Gilliam by making an opening in the anterior leaflet of the broad ligament, threading the ends of the ligature which have been passed around the round ligament into the eye of a Deschamp's needle and have carried this through the broad ligament until it has penetrated the aponeurosis as suggested by Gilliam. I much prefer the Pfannenstiel incision, as it permits of greater exposure of the parts. This procedure also enables us to get directly down on the site of the round ligament. We are directly over it and it is under our control during the whole procedure.

The operation suggested by Dr. Baldy certainly does lift up the uterus and probably sustains it better than any operation done on the round ligaments. The objections are the very extensive traumatism on the posterior surface of the uterus and the fact that it pulls out the ligaments from the peritoneum, leaving an extensive raw surface on the posterior surface of the ligament to which adhesions of the intestine and rectum are likely to occur. I have had the opportunity to operate on one of the patients who had passed through the hands of Dr. Baldy and found that this condition existed, drawing back the uterus after an operation had been done. This modification makes a fibrous band of the musculature which is effectual in maintaining the uterus in a forward position. The uterosacral ligaments are much like the Arctic circle—an imaginary line. They have been completely obliterated by the conditions which have led to the sinking down of the uterus and are consequently of little effect. The procedure suggested by Coffey of utilizing the peritoneum, bringing about extensive adhesions of the peritoneum, serves a most efficient purpose. Here the uterus is held up by adhesions and consequently the cervix drawn backward and upward and in that way the displacement is overcome.

DR. J. B. MURPHY, Chicago: I address you in this discussion as fellow gynecologists, because it is all surgical, and all of the gynecologists are going to become general surgeons. In the question of retrodisplacement we have important problems. The position in which the uterus arrives at the physician's office is in one of the two, three or four degrees of displacement into which we usually subdivide them. Those who have lived through the pessary period and know the great relief that the patient receives when the uterus is held forward with a pessary, put in intelligently, know the relief that can be obtained from replacement, when you do not do additional damage to the patient by its improper insertion. I say that after a considerable clinical experience. In the attempt to relieve the displacement by many of the operations, and in some of the patients by all of the operations, the treatment leaves the patient worse than when it was begun. Just why this is true we do not know, but we know it occurs. Therefore, in deciding on the operation we must individualize as to anatomic conditions present, taking note of the degree of displacement, the construction of the patient's pelvis, and of the supports which we are able to appropriate for the retention of the uterus.

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[15] Longyear: Am. Jour. Obst., November, 1908.

[16] Hannes: Zentralbl. f. Gynäk., 1908, No. 49.

[17] Harris, M. L.: A New Operation for Prolapse of the Uterus, THE JOURNAL A. M. A., May 14, 1910, p. 1605

* Some of these articles appeared in THE JOURNAL last week.

In the relief of displacements by anterior fixation to the abdominal wall, which I was supposed to discuss, I must say this, that I made the ventral fixation for a number of years in the majority of operations. In a considerable percentage of cases the patients had three causes of complaint against me: (1) When the patient sneezed she had to seize her abdomen because of the pain caused by the traction; (2) when she jumped from a street car or carriage there was a sensation of tension or of pain; (3) finally, elongation took place and the uterus returned to the previous position. In the evolution of the displacement, whether it is immediate, following a severe injury or strain, or whether it is gradual, where do you find the uterus in the third degree? Down in Douglas' pouch with the intra-abdominal pressure on the anterior wall. Where are your round ligaments running? If you examine the patients, and particularly the thin ones, you will find in the superlative degree of displacement, if you are going to appropriate the round ligament to the support of the uterus without changing its attachment, that you have another element to contend with—the round ligament, normally situated high up and near the corner of the uterus, has worked down one and one-half inches to the line. So you have lost your leverage support from its position. The round ligament, I consider, is the balancing cord of the uterus. It carries none of its weight, simply balances it, and the weight is carried from below. The most natural thing in its restoration would be to put the weight where it was before; but the weight remains, except that it is resting on the floor of Douglas' pouch.

I use the round ligament for restoration in cases in which there is a comparative degree of displacement. Recurrence is more frequent than agreeable, but I believe there is less discomfort to the patient than with the fixation. In the superlative degree of displacement I have followed another line of treatment. In a case of procidentia if you will make an incision in the Pfannenstiel line down to the *rectus muscle*, then split the rectus muscle in a line parallel to its long axis; draw out the uterus and cut off the round and broad ligaments down to the cervico-corporeal junction, then split the uterus parallel to the long axis of the body down to the cervix, turn out the lateral flaps, remove the mucosa of the tube and uterus down to the cervix, then sew the uterus to the external surface of the sheath of the recti after uniting the peritoneum and the aponeurosis of the rectus up around the cervico-corporeal margin of the uterus, it will then hold the bladder and the rectum up as long as the patient lives.

Dr. H. J. Boldt, New York: We have traveled through a veritable jungle of surgical interventions for the cure of displacements of the uterus, particularly posterior displacement. We might believe—judging entirely from what has been said by all except the last speaker, Dr. Murphy, who paid attention to other than surgical intervention—that perhaps there is no other method than surgical intervention. Moreover, judging from the number of operations which have been reported, off and on, for displacement of the uterus, it would seem that every woman who has a retrodisplacement of the uterus must have been subjected to a surgical intervention for the relief of that displacement. We must bear in mind that so far as the symptoms are concerned, caused by a posterior displacement, they very seldom are caused, except from a mechanical interference with the functions of the pelvic organs. Symptoms are usually caused by complications. When symptoms occur from a mechanical cause we need not at once resort to the opening of the abdomen. In that class of cases I believe the great number of patients can be treated effectually by the use of a pessary, applied with common sense. There are a few isolated cases in which a pessary will not relieve such conditions. In cases in which the fundus of the uterus tips over the upper part of the pessary, and in that class of cases alone, we should consider the desirability of surgical intervention. I believe, notwithstanding what has been said, that the ideal operation is the Adams-Alexander operation, through the inguinal canal, provided that there is no downward displacement. The moment we have descensus the operation is absolutely worthless. So far as intraperitoneal operations are concerned, they are indicated only in the presence of complications with the adnexa, when we have an adherent retroflexion.

All the argument, all the speaking done here, will have no effect on any of the men who have devised operations. The matter is one of personal equation. I believe there are merits in all. There are so many roads that lead to Rome we may have the benefit of any. My personal experience has led me to believe that the operation devised by Dr. Gilliam is the most satisfactory.

Dr. J. H. Carstens, Detroit: It seems to me that Dr. Boldt has struck the keynote. When I was a young man I had a patient with retroversion. I had been graduated at a period when there was a great cry against pessaries. So, of course, I did not use a pessary—thought they were injurious—and I treated the woman on general principles. She evidently was a great sufferer. She ceased coming to my office and the next thing I heard was that she had gone to a woman physician who had examined her and said she had a retroflexed uterus. She put in a pessary and cured her. I have found since then, as Dr. Boldt has said, that there are cases in which pessaries are valuable; for instance, in those cases shortly after confinement in which the uterus is large and heavy. Other cases are those of young girls and sometimes of married women. It occurs to me that if there are adhesions and you have to open the cul-de-sac, you might as well open it anteriorly and find out what is necessary to do rather than to perform the Alexander operation. The patients who require only pessary treatment and who have simple retroversions that produce no symptoms I do not see. The kind of cases we see are complicated cases in which we must do exploratory abdominal section. In one case I may take out a tube and ovary. In many of these cases I sew the stump in the lower abdominal incision, and even in patients subsequently pregnant no trouble has been experienced. In some of these cases I do an operation such as Dr. Bandler does. Sometimes one is good; sometimes another.

Dr. C. W. Barrett, Chicago: Fellow surgeons—I say that because a great gynecologist is something of a special surgeon, and not because every surgeon is a great gynecologist—we have had a great feast showing what the round ligaments and the false ligaments can do in the correction of retrodisplacement. If I remember aright there was another great feast at which there appeared certain handwriting on the wall, which translated, I believe, meant, "Weighed in the balance and found wanting." That applies to a number of the operations spoken of here for retrodisplacement. The soundest principles have been laid down by Dr. Goldspohn. His is the operation of safety. Ventrosuspension and ventrofixation were formerly the excuses you could offer the patient for making a vivisection, for studying anatomy and living pathology, and they have had a wonderful place, but they are dead operations. The satisfaction that each person has felt in an operative procedure only shows how easily we are satisfied, and this is the chief thing in the way of progress. We must have the very best thing that can be offered, for the best is none too good. Whatever operation we choose must follow certain definite principles. It must be not complicated. It must be safe, immediately and remotely safe. It must allow inspection and correction of conditions in the abdomen. Next, it must use normal ligaments instead of false ligaments. Goldspohn has laid this down definitely. It must have the best part of a ligament instead of the poorest part, because there is a better and a poorer part of the round ligament. Next, it must use the natural ligaments and place them normally. It must not sew up the round ligaments and run them anywhere. I do not condemn Dr. Gilliam for proposing that, but it is an evil of ventrosuspension that it runs ligaments from the peritoneal space. An operation to stand the test must meet these requirements. Such an operation will stand the double test of pregnancy. I thought at one time that I had devised such an operation. I had full possession of that thought for two years. Then I had to share the matter with Charles Mayo. In another year I think I shall have no connection with it at all.

Dr. H. O. Marcy, Boston: Many years ago I thought I knew something of this operation. I had studied hernia with a great deal of care; therefore I thought I knew all about the Alexander operation. I welcomed it. I did it. I thought I knew my anatomy. I failed. I discredited it. To-day I take the position largely of Dr. Montgomery. We must be guided by the different factors. First of all, if we can restore a patient by a well adjusted pessary, it is *prima facie* evidence that operations from below may cure. When they fail it must be, I think, an operation from above. That operation, several men have said, must be laparotomy, and that gives you the inspection as Dr. Carstens has said and the knowledge of the various factors with which one must deal. Then, after doing all sorts of operations on the ligaments, in a general way, I have operated for quite a number of years—transplanting the round ligaments a little higher, making a new inguinal canal, reproduced to the normal pattern—for it is a congenital defect. The peritoneum must be so infolded that raw surfaces are not left within the abdominal cavity.

Dr. W. H. Wathen, Louisville: If once a surgeon begins to treat these patients all on the same principle he will never be successful. Each patient must be treated as an individual case and the existing pathologic conditions must be met. You hear a great deal said about shortening the round ligaments, the utero-sacral ligaments, and the various structures, to hold the uterus in position. It has never yet been demonstrated what does normally hold the uterus in place. We do know that there are structures above the perineal floor and there are structures below the uterus that participate in this, and whenever you find a defect in the structures you must treat such defect as encountered. I have performed nearly all the operations discussed to-day because in my line of work I have had a relatively large experience, and I have found less trouble and better results by anterior suspension. I have had no trouble following pregnancy. As Dr. Dudley has remarked, if in a case of retrodisplacement you perform any or all of the operations for the cure, yet do not repair the pelvic floor and suspend or elevate the bladder, you will never secure permanent success. If you make an anterior suspension in women not past the childbearing period by one suture only, and then build up the pelvic floor and bladder wall you will have success. If the woman is past the child-bearing period, then make a firm anterior fixation instead of a suspension, and if the uterus is too large amputate a large portion of the cervix, unite the vagina to the stump of the cervix and at the same time repair the pelvic floor, and, if needed, separate the anterior wall of the vagina from the bladder, elevate it by an approved method and then do a uterine suspension or fixation as indicated by the age condition of the patient.

I often perform the Gilliam operation, or some of its modifications, but I have never had any complication following anterior suspension of the uterus and I have performed the operation several hundred times.

Dr. G. Betton Massey, Philadelphia: I wish to emphasize the true cause of the displacement, which seems to have been overlooked by those who have spoken. The pathologic condition is not the displacement; it is the morbid condition of the uterus, the chronic inflammation of the uterus. Proof of that is found in the very large number of retroflexions that present no symptoms. This is shown also by the fact that many such patients in whom the diseased condition of the uterus has been cured, without complete rectification of the flexion, cease to have symptoms. With an experience of twenty odd years in the treatment of these cases of retroflexion I have never yet come across a single patient in whom the normal movable condition of the uterus needed to be destroyed by a fixation. I protest against all the operations described, and consider each and every one based on a misconception of the pathologic condition. It is now universally conceded that inflammation is due to germs and not to mechanical conditions.

Dr. George Gellhorn, St. Louis: The multiplicity of these operations forces me to the conclusion that none of them is ideal and applicable in all cases. But how is the gynecologist who has not had the originality to invent a method of his own, or who has not enough material to test all these methods, to choose the one he shall use in the individual case? Granted that all the claims made for the various methods are justified, namely, that they do not interfere with the functions of the genital organs, and that they are not any more dangerous than the disease itself, I think there are certain principles, the consideration of which will help us to limit the methods from which we may choose. In a case of retroflexion during the reproductive age I would avoid, first, any operation which fixes the uterus in an abnormal position. Examples of such are ventrofixation and ventrosuspension. Second, I would avoid any operation which deprives me of the sense of sight. There is no living man who is able to determine by bimanual examination in every case before the operation the absence of delicate adhesions or of minor pathologic complications about the tubes and ovaries, and if he does an operation of the Alexander or Goldspohn types, he deprives himself of the opportunity of freeing adhesions. Third, in an operation, as Dr. Barrett has pointed out, in which the round ligaments are used, I would try to use the better part of these ligaments. In some of these operations the weak part is still left to do the work of holding up the uterus. Fourth, I would avoid any operation which utilizes ligaments which have a very unimportant part in holding the uterus in place, and which are much too weak to do it. These are the objections to the Bovée type of operation, in which the utero-sacral ligaments are utilized. They are much too small to hold the uterus forward ordinarily, and if we find in a patient thickened and shortened utero-sacral ligaments we have to treat that condition because it produces distressing symptoms. In methods of this kind we produce artificially a condition which we are often called on to treat. The observation of these four principles will help us to limit our choice and I believe that of the numerous methods, only part of which have been mentioned here, there will be hardly more than two or three that will answer.

Dr. Henry T. Byford, Chicago: The strong end of the round ligament is in the inguinal canal. Those who have performed the Alexander operation, know that they have to cut some fascial attachments in the inguinal canal which give firmer support than the intraperitoneal muscular part, which is not a direct support; it is a balancer. If we want to suspend the uterus we had better eliminate the intraperitoneal, muscular portion, and depend on the other. This is what is done in the Baldy operation. In the majority of cases we do not want actually to suspend the uterus, we merely want a balancing action. Nature has experimented on woman for many years and knows how to hold up the uterus. Those operations which imitate Nature by making use of a new canal, or the old one, must be right in principle.

Dr. J. M. Baldy, Philadelphia: I feel a bit concerned that a general surgeon should speak of including us as surgeons. For a long time the gynecologists have been attempting to educate the general surgeons, but having so ignominiously failed I feel that probably we had better go to them and learn general surgery, as suggested by Dr. Murphy. The pessary was not discussed in my paper because I was not asked to discuss that subject. I see pessaries used in only two kinds of cases, and I can come to but one conclusion—that nobody in the East knows how to use them—for it has been said on the floor that there are good ways of employing them.

The two classes of patients who come to me with pessaries are those with perfectly normal anteriorly displaced uteri which need nothing, the patients having been made sick because some fool doctor has put a pessary in, and secondly, the patients with prolapse in which a pessary is of *no use*. Consequently I feel that nobody in the East knows how to use them, barring New York, and I intend to make a special trip to New York *to see whether they* are correctly used there. The ability seems to be confined to the West or to the Middle West, to Chicago principally. I showed by the model this morning how useless is the weak end of the round ligament in this operation. But I shall convince Dr. Gellhorn of his wrong position by *showing* him by the model that that end of the ligament is not used at all in the operation.

Dr. D. Tod Gilliam, Columbus, O.: The only criticism made of the operation which I have devised is that it leaves bands in the peritoneal cavity which are liable to produce obstruction of the bowels. "The proof of the pudding is the eating thereof." For ten long years or more this operation has been performed thousands of times by hundreds of different operators and there has never been a case of obstruction of the bowels.

Dr. F. F. Simpson, Pittsburg: I think we all recognize the fact that there are many displacements of the uterus that require no treatment and that many others are corrected by the pessary. There are many others in which some coincident disease, cardiac, renal, pulmonary, thyroid or other disease, *contraindicates any type of operation for any purpose. In such cases benefit is obtained from the use of the pessary.* The work of Drs. Reynolds, Goldthwaite and others has shown the importance of examination of the sacroiliac joint before the treatment of displacement by any method is to be considered. In reference to the employment of other operations than those devised by the individual operator, I have used and am constantly using parts of operations of different types and expect to continue to do so.

Dr. A. Goldspohn, Chicago: Dr. Coffey makes several assumptions that are *fundamentally wrong: (1) He assumes* that all abdominal as well as pelvic organs are held in their places chiefly by their peritoneal mesenteric supports. The truth is that the abdominal walls hold the abdominal organs chiefly, as we soon find out when these walls are defective. On the other hand, the uterine supports have either connective tissue or muscle in them in addition to the peritoneum. The free expansion of pelvic tumors shows that peritoneum holds not much better than skin. (2) That two layers of stomach or intestinal wall may unite and form one layer permanently, does not prove that the same will be *true of the broad and* round ligaments about the uterus, which are subject to the phenomenal and entirely peculiar changes incident to gestation and parturition, which does not apply to intestines, etc. In secondary laparotomies I have repeatedly seen all such plications and foldings of broad and round ligaments completely wiped out without leaving a trace of the former work, *after an intervening childbirth. In retroversion cases, the displacement had nearly always recurred.* That the proposed plications of broad ligaments proposed by Dr. Coffey do give way as above stated, is shown by his declaration that the involved round ligaments disentangle themselves later, and assume their usual course. This they could not do without the giving way of the broad ligament plications. The doctor practically constructs two connected links of a chain, and then claims that they become separated without either one of them being broken. The operations devised by Drs. Webster, Baldy, Ries and a number of others for retroversion, are inferior as to stability, because they depend on the tapering, *feeble outer* ends of the round ligaments to do holding, which they cannot do because of their feebleness and because of their course in areolar tissue extraperitoneally before entering the inguinal canals. I have practiced, for some years past, median section with removal of the appendix and other explorations, and have corrected *retroversions in a small number of cases by shortening the* sacro-uterine ligaments; in others by transplantation of the round ligaments into the abdominal walls, by several of the different methods, chiefly by a modified Gilliam operation, in which the uterus is drawn up more, so that it comes in contact with the abdominal wall, and the utero-vesical space becomes quite *effectively* shut off from the entrance of the small intestine. The *theoretical* arguments about intestinal strangulation, etc., do not apply to this form of the operation at least, of which I have over 500 that are fully two years old, and without any such disaster, or any difficulty in childbirth.

IMMUNOLOGY

A MEDICAL SCIENCE DEVELOPED THROUGH ANIMAL EXPERIMENTATION

FREDERICK P. GAY, M.D.
Professor of Pathology, University of California
BERKELEY, CAL.

Perhaps no other of the medical sciences can be so suitably discussed in relation to animal experimentation as immunology, because no other science has been so dependent on this method of attack for its development.

The science of immunity, or immunology, would explain the mechanism by which the animal body is enabled to resist disease. In addition to its fascination as a biologic science, immunology offers the added interest of the greatest human utility, the prevention and cure of disease; and precisely in this vital significance lies at once the importance of the science and a potential danger to its sound development. This danger arises in an overanxiousness to apply supposedly specific agents before the principles that underlie their apparent effect have been determined. The history of immunology has, indeed, brought into particular relief certain interesting relations of theory to practice, worthy of more philosophic discussion, but we may content ourselves with an attempt to point out the usual sequence of observed facts, logical deduction, inductive experiment, and, in *concluded chapters, application of principle* in the diagnosis and prevention of disease.

The relatively recent development of any exact knowledge of the mechanism of immunity is at first glance surprising, when we consider that certain examples of natural and of acquired resistance to disease have been recognized since ancient times. Some attempts to turn these recognized examples to practical use were from the beginning successful, but none of them was inaugurated with that understanding of the *principle involved* which brings the greatest utilitarian reward. It is obviously no lack of human interest in the subject which *has delayed* the evolution of immunology, but largely the lack of a suitable method of attack on so obscure a subject. The method was eventually furnished by the recrudescence of the experimental idea as *applied to* medicine and particularly as exemplified in the progress that has been made in determining the causation of disease. *Immunology*, indeed, parallels bacteriology both in chronology and in method. Before considering the development of the experimental science of immunity we may *outline*:

I. THE DATA OF IMMUNITY ACQUIRED FROM CASUISTICS

The first and most *wide-spread type of resistance to* disease is the inborn or natural immunity which is evident on the initial exposure to a given malady. With an increasing intensity, as expressed in more and more marked resistance to infection, natural immunity serves to differentiate individuals of a given race, races of a given species, and species of animals from one another.

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* This paper is one of the series prepared for and reprinted by the Council on Defense of Medical Research of the American Medical Association for circulation among the public. Seventeen of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, circulation of the blood, tropical diseases, etc.

The individual type of natural immunity may be noted whenever a group is subjected to equal chances of infection or contagion; certain individuals succumb while others resist. A familiar example to illustrate this relative individual resistance is given in any group of pathologists who are performing numerous post-mortem examinations; some members of this group are veritable martyrs to post-mortem infections, whereas others are practically immune. This type of resistance is frequently temporary and in all respects relative; it is dependent on certain subtle differences in general health and nutrition and may be evidenced by certain changes in the bactericidal properties of the blood, to which reference will later be made.

Natural racial immunity, to which attention was called as early as the sixteenth century, is in all probability dependent on differences in food and general hygiene. It is difficult to be certain in many so-called examples of racial immunity that have been given whether the increased resistance is in reality inborn or simply acquired through recovery from disease. The marked resistance of certain races of mice to a transmissible tumor (Haaland),[1] which resistance may actually be lowered by a change in environment, would seem a certain example of a natural racial immunity.

Species immunity is the most evident and distinctive type of natural immunity. The difference in resistance between any two species of animals to a given infection varies in general with the distance apart that these species lie in the animal scale. Although familiar examples of species immunity occur throughout the animal kingdom, those of the greatest interest occur in relation to a whole series of typical human diseases, syphilis, measles, typhoid fever, gonorrhea and the like, which never occur spontaneously in the lower animals, and cannot be transmitted to them or at best in modified form only. Recent studies with the higher anthropoid apes, however, have shown that at least certain of these typically human diseases (*e. g.*, syphilis and typhoid fever) may be produced in these animals because they are most nearly related to the human species. In a general way, species resistance may be attributed to differences in metabolism, body temperature, intestinal enzymes and the like.

Of far greater significance and practical bearing are those instances of immunity acquired through recovery from a given disease. It is a matter of human experience that man has usually but a single attack of many of the diseases to which he is peculiarly susceptible, such as smallpox, typhoid fever, measles and yellow fever. In the face of epidemics where only those that have been previously affected are spared it is evident that such recovered individuals are protected, not as the result of chance, but owing to some induced mechanism of protection against the disease. Similar conditions of acquired immunity have frequently been noted in domestic animals.

Logical deduction from these observed instances of acquired immunity long since led to attempts to reproduce this advantageous condition artificially. Empirical efforts have been made even among primitive peoples to induce in individuals some endurable form of a fatal disease so that they might subsequently be better protected from chance infection. The African Vatuas[2] have been reported as practicing an efficient form of self-immunization against snake venom; the Moors early protected their cattle from pleuropneumonia by running under their skin a knife that had been plunged into the lung of an animal that had died of the disease. It is well known that the Chinese and other peoples of the East protected themselves from smallpox by variolization, which was effected by inserting the scabs of human smallpox lesions in the nose of healthy individuals. A similar method was introduced into England by Lady Mary Wortley Montague in 1721 and was employed until the observations of Jenner on the relation of cowpox to smallpox in 1798 led to the present method of prevention of the disease by vaccination. The chance that a disease of cattle (vaccinia) is intimately related to a fatal human disease and that an attack of the one in the form of a localized disease would protect against the more generalized malady, alone rendered Jenner's observation fruitful. No generalized conception of the principle of "vaccination with a virus of diminished virulence," as later established by Pasteur, however, existed. This is evidenced by disastrous attempts that were later made to prevent measles, diphtheria and scarlatina by similar methods.

II. THE DEVELOPMENT OF IMMUNOLOGY THROUGH ANIMAL EXPERIMENTATION

Centuries of careful observation of facts obtruded by Nature in the course of devastating epidemics had taught at least two important principles in regard to resistance to disease: an acquired immunity follows recovery from an attack in perhaps the majority of acute diseases; and in at least one instance (smallpox) this acquired immunity may be artificially induced through a mild form of the disease. In the past thirty years the assets of utility from our knowledge of immunity have been multiplied to an extent that it would be difficult to estimate, to say nothing of the additional data of present theoretical interest which may ultimately be available in practice. And this advance has been rendered possible by animal experimentation.

It is the purpose of an experimental science to replace accident by design. A disease produced experimentally in animals offers innumerable advantages to one interested in its natural history; it offers the only method of obtaining the significant stages of the disease in complete series for more minute examination. Only the interruption of an experimentally produced disease at successive periods in its course can afford exact information as to the method by which infection spreads and immunity is produced.

The discovery of the fundamental principles of bacteriology by Pasteur and Koch, the isolation and cultivation of bacteria in pure culture, and the proved etiologic relation of a definite micro-organism to a given disease, gave new impetus to the principle of vaccination exploited by Jenner. The work of Pasteur and his pupils with the bacillus of chicken cholera on animals laid the foundation for the discovery of the great principle of vaccination by means of bacterial cultures of diminished virulence. This diminution of virulence was obtained, in the case of chicken cholera, by long growth on artificial culture media, and later, in the case of anthrax by subjecting the cultures to growth at high temperatures. Similar methods of vaccination have been employed in the case of swine erysipelas and blackleg. In all instances the method has been arrived at by careful experimentation on animals and the products now used broadcast in actual prevention are first tested for virulence on laboratory animals. It is not my purpose to enter into a discussion of the practical results of protective inoculation but simply to indicate how the method of animal experimentation in bacteriology enriched the data of immunity.

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[1] Haaland: Beobachtungen über natürliche Geschwülstresistenz bei Mäusen, Berl. klin. Wchnschr., 1907, xliv, 713.

[2] Metchnikoff: L'Immunité dans les maladies infectieuses, Masson et Cie, Paris.

Immunology may be regarded as having been differentiated into a specialized science from the moment that effective attempts to explain the physiologic mechanism that protects immunized animals were made. Theories of immunity were offered by Pasteur, Koch and others, but they were based largely on speculation drawn from the bare results of infection rather than from experiments designed to expose the process of immunity itself. In 1876 Koch[3] attributed conditions of immunity to some change in the condition of the blood. Pasteur's exhaustion theory (1880)[4] supposed that bacteria fail to grow in immunized animals owing to a lack of proper nutritive substances. A similar condition could be produced in artificial culture media as was shown by the failure of fresh chicken cholera bacilli to grow in filtered media that had already served for the growth of this bacterium; the addition of a little fresh bouillon containing fresh nutritive substances permitted growth to proceed. Chauveau[5] in the same year would have explained immunity as due to the retention in the body of certain substances which inhibit bacterial growth. It is of interest to note that in none of these theories is any allowance made for active participation on the part of the animal itself in the production of resistance. The theories of Nägeli, of Buchner and of Grawitz do at least emphasize a reaction on the part of the animal itself, although they have proved in other ways inadequate.

It remained for Metchnikoff, a biologist, to give the first experimental evidence explanatory of the process of immunity. In 1882 Metchnikoff began recording his observations on the function of the white blood corpuscles in protecting the body from disease, observations which in his hands and in those of his followers have continued fruitful to the present day. Before Metchnikoff, mention has already been made of the presence and of the disintegration of bacteria within leukocytes and Panum[6] in 1874 had even suggested that such cells might be serving some protective purpose. The general conception of the accumulation of leukocytes which characterizes inflammation, however, was that it was a means of spreading rather than of checking infection. Metchnikoff had been making studies of the origin of digestive functions in cells of mesodermal origin. He suggested that the inclusion of particles and cells within leukocytes was due to an active digestive function in these mesodermal cells and ventured the assertion that their diapedesis during inflammation was a protective mechanism. In one of the crustaceans, *Daphnia*, which frequently suffers from an infection with a form of blastomyces (*Monosporon bicuspidata*), Metchnikoff was able to show that the outcome of the infection depends entirely on the completeness with which the blastomyces is engulfed by the leukocytes of the host. He was soon after able to demonstrate that frogs and mammals also combat experimental bacterial infection by a similar process of phagocytosis.[7]

NATURAL IMMUNITY FROM BACTERIA

Although this phagocytic theory of immunity at first encountered extreme opposition, its opponents have gradually yielded more and more toward complete acceptance of the interpretation that Metchnikoff has with persistence yet remarkable fairness of judgment insisted on. It is generally admitted that many forms of natural immunity in particular are best explained on a simple phagocytic basis. The more complicated types of acquired immunity are less directly, though unmistakably, related with activity on the part of the white blood-cells. Leaving until later a discussion of the part played in each form of immunity by the cells, we may briefly outline the mechanism of phagocytosis in those instances in which it has been shown to be distinctive.

In the first place, the phagocytic cells may be divided into two general types as regards function. The small, actively motile polymorphonuclear cells of the circulating blood are practically concerned only in making way with the bacteria which produce acute infections; these cells are called "microphages." Under "macrophages" are grouped the large mononuclear leukocytes and certain endothelial and fixed tissue cells; the function of these cells is to take up other animal cells, such as red blood-corpuscles and protozoa, and also certain bacteria, like the tubercle and leprosy bacillus, which produce chronic infections.

It has been shown by careful studies, both within the animal body and in mixtures made in the test-tube, that the phenomenon of phagocytosis may be divided into three phases. In the first phase the leukocytes approach non-virulent bacteria owing to a positive chemotactic influence which the latter exert. If the bacteria are markedly virulent, on the other hand, they exert a negative chemotactic influence. These important facts of positive and negative chemotaxis were ingeniously demonstrated by Bordet,[8] who placed small capillary glass tubes filled with the bacteria to be tested in the peritoneal cavity of guinea-pigs and later measured the length of the columns of leukocytes that had penetrated the tubes. After reaching the bacteria the phagocytes engulf them, owing in all probability to an active ameboid process, although it has been suggested that this apparent activity is due in reality to a simple physical change of surface tension. The bacteria, once within the leukocytes, are broken up by a process of digestion. An extract of leukocytes may be made which contains an enzyme (cytase) capable of producing this digestion at body temperature outside the body and the extract has been shown to vary in accordance with whether it is derived from microphages or macrophages. The extract of microphages (microcytase) is particularly active against bacteria and is effective only in an alkaline medium; it has little effect on animal cells. Macrocytase, on the other hand, derived from the mononuclear cells, works best in an acid medium and destroys animal cells.

The active opposition with which Metchnikoff's cellular theory of immunity was at first met was directly productive of important facts which at first seemed to attribute the active protective power of the blood to the fluid portion rather than to the leukocytes. In 1885 Fodor[9] showed that anthrax bacilli, when mixed with fresh rabbit blood in the process of clotting, were destroyed; and two years later Nuttall[10] showed that fresh defibrinated blood would produce the same effect. In 1891 Buchner[11] proved this bactericidal effect of fresh blood to be due to the cell-free blood serum, whether it is obtained by defibrination or by clotting. Buchner further described certain ferment-like substances in the serum to which this destructive power over bacteria is due and to which he gave the name of alexins (from ἀλέξειν to ward off or protect). The alexins resist freezing and thawing, but are destroyed by heating to 55 C. for one-half hour. They are unaffected by dilution in physiologic salt solution and may be precipitated with sodium sulphate. Such physical and chemical characteristics have caused alexins to be classed with the enzymes without any very profound knowledge as to their chemical composition.

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[7] For detailed consideration of Metchnikoff's phagocytic theory, see Metchnikoff's *L'Immunité dans les maladies infectieuses*, which is also obtainable in English translation. (F. G. Binnie, Cambridge University Press.)

[8] Bordet-Gay: Studies in Immunity, pp. 1 and 8, Wiley and Son New York, 1909.

Further studies, particularly those dealing with the origin of alexin, seem to have shown that the bactericidal property of cell-free serum is in reality no disproof of the correctness of Metchnikoff's conception of the cellular nature of natural immunity. There is good experimental evidence for the belief that the alexin of Buchner is never present in the blood plasma in the body, but is artificially liberated in blood serum by clotting, owing to a disintegration of the leukocytes which normally contain it. In other words, the "alexin" is synonymous with Metchnikoff's leukocytic ferment, the "cytase," which under usual conditions destroys bacteria within the cell (phagocytosis) and under abnormal conditions in shed blood is liberated in the serum. Many experimental observations have been adduced to prove this point. For instance it may be shown that the alexin varies with the degree of leucocytosis; leukocytic extract is essentially the same in its action as alexin; and alexin increases in the serum under conditions which favor disintegrating of leukocytes.

It would seem, then, that the leukocytes are largely responsible, either directly through phagocytosis or indirectly through liberation of cytase or alexin, for the condition of natural immunity from bacteria and animal cells. As we shall presently see, the study of conditions of acquired immunity, although in a measure complicating this explanation, has led to far greater insight of practical significance in combating disease.

IMMUNITY FROM TOXINS

At this point it is advisable both for reasons of chronology and exposition to interrupt temporarily our consideration of the mechanism of animal defense against bacteria as such. Bacteria that have gained entrance to the body are harmful, not only because they increase rapidly in numbers when unrestricted, but because they eliminate harmful products. These harmful products may be either simple chemical substances like acids and alkalies, bacterial proteins, known as ptomains, or more particularly, in certain instances, true bacterial toxins. Toxins are albuminoid substances, of unknown chemical constitution, which are specific both in their origin and in the effect they produce. They are endowed with certain other recognizable characteristics; they produce their harmful and specific effects only after a period of incubation; they are readily destroyed by heat; they act in very small doses; and lastly, as we shall presently see, they produce antitoxins. Pasteur, as early as 1880, noted that old bouillon cultures of the *Bacillus avisepticus* which had been filtered free from bacteria would, on injection into animals, produce symptoms of narcosis. In 1888 Roux and Yersin[12] described a toxin found in filtered cultures of the diphtheria bacillus which was fatal for guinea-pigs in very small doses. Although the possibility of specific protection from bacterial invasion by means of previous treatment with killed or modified bacterial cultures was then known, attempts at a similar protection against this diphtheria toxin were at first unsuccessful. In the following year Kitasato succeeded in obtaining a pure culture of the tetanus bacillus and in 1890 von Behring and Kitasato[13] obtained tetanus toxin from such cultures. They found furthermore that by treatment with certain chemical substances the toxins of diphtheria and of tetanus could be weakened so as to be better supported by laboratory animals; animals treated with these weakened toxins became immune from doses of the whole toxin that were fatal to the normal animal. And, more important still, it was shown that the blood of such actively immunized animals would protect normal animals against subsequent injection of fatal doses of toxin, or would even cure, within reasonable time limits, animals that had already received the toxin. These experiments form the rational basis for the present highly effective antitoxin treatment of diphtheria and for the prevention of tetanus.

The interesting studies of Ehrlich[14] as to the mode of interaction of antitoxin with toxin not only gave rise to an enormously ingenious and fruitful theory of immunity but determined the recognized method of estimating and standardizing, by the use of guinea-pigs, the exact curative value of diphtheria antitoxin. We need not concern ourselves with the theories of antitoxin effect, as their interest, although of ultimate utilitarian value, is immediately largely academic. In addition to the better studied toxins of diphtheria and tetanus, true toxins have been described as formed by cholera vibrios, the bacillus of meat poisoning (*B. botulinus*), the dysentery bacillus of Shiga and the *Bacillus typhosus*. The exact relation of each of these latter toxins to pathogenesis of the disease in question is not fully determined nor can any final word be given as to the efficacy of an antitoxin treatment in many of these instances. In the case of the dysentery bacillus, at least, almost certain results may ultimately be expected from specific antitoxin therapy.

ACQUIRED IMMUNITY FROM BACTERIA

Reference has already been made to the important discovery of Pasteur that animals could be immunized by means of cultures of diminished virulence. In 1886 Salmon and Smith[17] showed that pigeons could be immunized against the hog cholera bacillus by means of cultures that had actually been killed by heat. In 1888 Richet and Hericourt[18] proved that this antibacterial type of immunity is transferable from one animal species to another. Von Behring and Nissen[19] demon-temperatures. Similar methods of vaccination have been employed in the case of swine erysipelas and blackleg. In all instances the method has been arrived at by careful experimentation on animals and the products now used broadcast in actual prevention are first tested for virulence on laboratory animals. It is not my purpose to enter into a discussion of the practical results of protective inoculation but simply to indicate how the method of animal experimentation in bacteriology enriched the data of immunity.

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[9] Fodor: Deutsch. med. Wchnschr., 1885, p. 435.

[10] Nuttall: Ztschr. f. Hyg., 1888, iv, 353.

[11] Buchner: Centralblatt f. Bakteriol., v, 817.

[12] Roux and Yersin: Annales de l'Inst. Pasteur, 1888, ii, 629.

[13] v. Behring and Kitasato: Deutsch. med. Wchnschr., 1890, No. 49.

[14] Ehrlich-Bolduan: Collected Studies in Immunity, ed. 2, p. 481, Wiley and Sons, New York.

[17] Salmon and Smith: Centralbl. f. Bakteriol., 1887, ii, 543.

[18] Richet and Hericourt: Compt. rend. Acad. d. sc., 1888, cvii, 690.

[19] v. Behring and Nissen: Ztschr. f. Hyg., 1890, viii, 412.

Immunology may be regarded as having been differentiated into a specialized science from the moment that effective attempts to explain the physiologic mechanism that protects immunized animals were made. Theories of immunity were offered by Pasteur, Koch and others, but they were based largely on speculation drawn from the bare results of infection rather than from experiments designed to expose the process of immunity itself. In 1876 Koch[3] attributed conditions of immunity to some change in the condition of the blood. Pasteur's exhaustion theory (1880)[4] supposed that bacteria fail to grow in immunized animals owing to a lack of proper nutritive substances. A similar condition could be produced in artificial culture media as was shown by the failure of fresh chicken cholera bacilli to grow in filtered media that had already served for the growth of this bacterium; the addition of a little fresh bouillon containing fresh nutritive substances permitted growth to proceed. Chauveau[5] in the same year would have explained immunity as due to the retention in the body of certain substances which inhibit bacterial growth. It is of interest to note that in none of these theories is any allowance made for active participation on the part of the animal itself in the production of resistance. The theories of Nägeli, of Buchner and of Grawitz do at least emphasize a reaction on the part of the animal itself, although they have proved in other ways inadequate.

It remained for Metchnikoff, a biologist, to give the first experimental evidence explanatory of the process of immunity. In 1882 Metchnikoff began recording his observations on the function of the white blood corpuscles in protecting the body from disease, observations which in his hands and in those of his followers have continued fruitful to the present day. Before Metchnikoff, mention has already been made of the presence and of the disintegration of bacteria within leukocytes and Panum[6] in 1874 had even suggested that such cells might be serving some protective purpose. The general conception of the accumulation of leukocytes which characterizes inflammation, however, was that it was a means of spreading rather than of checking infection. Metchnikoff had been making studies of the origin of digestive functions in cells of mesodermal origin. He suggested that the inclusion of particles and cells within leukocytes was due to an active digestive function in these mesodermal cells and ventured the assertion that their diapedesis during inflammation was a protective mechanism. In one of the crustaceans, *Daphnia*, which frequently suffers from an infection with a form of blastomyces (*Monosporon bicuspidata*), Metchnikoff was able to show that the outcome of the infection depends entirely on the completeness with which the blastomyces is engulfed by the leukocytes of the host. He was soon after able to demonstrate that frogs and mammals also combat experimental bacterial infection by a similar process of phagocytosis.[7]

NATURAL IMMUNITY FROM BACTERIA

Although this phagocytic theory of immunity at first encountered extreme opposition, its opponents have gradually yielded more and more toward complete acceptance of the interpretation that Metchnikoff has with persistence yet remarkable fairness of judgment insisted on. It is generally admitted that many forms of natural immunity in particular are best explained on a simple phagocytic basis. The more complicated types of acquired immunity are less directly, though unmistakably, related with activity on the part of the white blood-cells. Leaving until later a discussion of the part played in each form of immunity by the cells, we may briefly outline the mechanism of phagocytosis in those instances in which it has been shown to be distinctive.

In the first place, the phagocytic cells may be divided into two general types as regards function. The small, actively motile polymorphonuclear cells of the circulating blood are practically concerned only in making way with the bacteria which produce acute *infections*; these cells are called "microphages." Under "macrophages" are grouped the large mononuclear leukocytes and certain endothelial and fixed tissue cells; the function of these cells is to take up other animal cells, such as red blood-corpuscles and protozoa, and also certain bacteria, like the tubercle and leprosy bacillus, which produce chronic infections.

It has been shown by careful studies, both within the animal body and in mixtures made in the test-tube, that the phenomenon of phagocytosis may be divided into three phases. In the first phase the leukocytes approach non-virulent bacteria owing to a positive chemotactic influence which the latter exert. If the bacteria are markedly virulent, on the other hand, they exert a negative chemotactic influence. These important facts of positive and negative chemotaxis were ingeniously demonstrated by Bordet,[8] who placed small capillary glass tubes filled with the bacteria to be tested in the peritoneal cavity of guinea-pigs and later measured the length of the columns of leukocytes that had penetrated the tubes. After reaching the bacteria the phagocytes engulf them, owing in all probability to an active ameboid process, although it has been suggested that this apparent activity is due in reality to a simple physical change of surface tension. The bacteria, once within the leukocytes, are broken up by a process of digestion. An extract of leukocytes may be made which contains an enzyme (cytase) capable of producing this digestion at body temperature outside the body and the extract has been shown to vary in accordance with whether it is derived from microphages or macrophages. The extract of microphages (microcytase) is particularly active against bacteria and is effective only in an alkaline medium; it has little effect on animal cells. Macrocytase, on the other hand, derived from the mononuclear cells, works best in an acid medium and destroys animal cells.

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[9] Fodor: Deutsch. med. Wchnschr., 1885, p. 435.
[10] Nuttall: Ztschr. f. Hyg., 1888, iv, 353.
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The extreme interest that greeted the discovery of the antitoxins led at first to a misconception of the mechanism of the protection afforded animals by the inoculation of bacterial cultures. It was at once supposed that in the majority of instances, for example, in the immunity against spirilla, the protection was antitoxic. In 1894, however, Pfeiffer[20] began his studies with cholera infection and immunity which led to a revolution in our conception of acquired immunity from bacteria. Pfeiffer injected cholera spirilla into the peritoneal cavity of guinea-pigs that had been immunized by means of subcutaneous inoculations of this micro-organism. Whereas in the normal peritoneum the spirillum increases rapidly in numbers and leads to a fatal infection, in the immunized peritoneum the vibrios are found to undergo rapid lysis; preparations made at intervals from the peritoneal exudate show increasing numbers of deep-staining granules which finally replace the normal vibrios entirely. Coincidentally with this "bacteriolysis" the animal recovers. Pfeiffer further showed that although his serum obtained from immunized guinea-pigs had in itself no destructive power for the vibrios *in vitro*, it would, when mixed with them and injected into the peritoneal cavity of normal guinea-pigs lead to the specific form of lysis.

Bordet[21] was first to offer the correct explanation of "Pfeiffer's phenomenon," as it is called. He found that if the anticholera serum was employed soon after removal from an immunized guinea-pig it would suffice alone to destroy the vibrios in the test-tube. Heating to 55 C. or conservation for several days destroyed this lytic property, but the property could be restored to the inactive cholera serum by the addition of fresh normal guinea-pig serum which in itself has no lytic property. In other words, the specific lytic effect of anticholera serum is due to the cooperation of two substances, one of which occurs in all fresh normal serums, is destroyed by heat, is non-specific and is identical with Buchner's alexin (Ehrlich's complement). The second substance, the *substance préventive* or *substance sensibilisatrice* (Ehrlich's amboceptor) as Bordet called it, is specific, occurs only as the result of immunization, and resists heating to 55 C.

The further investigation of the finer interaction of these two substances concerned in bacteriolysis was rendered possible by Bordet's discovery of the artificial hemolysins in 1898.[22] Bordet found that the blood-serum of guinea-pigs that have received several injections of rabbit blood acquires the property of specific destruction of rabbit red blood-cells. He was further able to show that this corpuscle destruction or hemolysis is also brought about by the combined action of alexin with a specific sensitizer. These fundamental facts have since been amplified to an extraordinary extent by the studies both of Bordet and of Ehrlich and his school.[23] Anti-hemolysins, composed in turn of antialexin and antisensitizer, have been described and their study has given great insight into the action of the antibodies in general. Ehrlich's explanation of the interaction of antibodies and their antigens has been on the line of organic chemical reactions, whereas Bordet has persistently favored an explanation in harmony with the laws of physical and later of colloidal chemistry. There is now little doubt that the colloidal theory best agrees with the facts.

Many other questions of at first academic and of later practical interest have arisen from the studies on bacteriolysins and hemolysins. Thus the dispute between Bordet and Ehrlich as to the unity or the multiplicity of alexins gave rise to Bordet's "reaction of fixation" which has served as a most valuable diagnostic test of bacterial infections and has been particularly exploited in Wassermann's test for syphilis. A study by Bordet and Gay[24] in refutation of Ehrlich's conception of the sensitizer as an amboceptor led to the conglutination reaction which promises much as a method of serum diagnosis.[25]

As may well be conceived the explanation of acquired anti-infectious immunity on purely humoral lines is certainly suggested by the work of Pfeiffer, Bordet and Ehrlich and such explanation would seem to be in essential disagreement with Metchnikoff's phagocytic theory as applied to this type of immunity. The disagreement is, however, more apparent than real. Metchnikoff soon pointed out that Pfeiffer's phenomenon of extracellular bacteriolysis is exceptional and occurs practically only with such delicate micro-organisms as the vibrios. In even this instance Metchnikoff believes that the lysis is preceded by a destruction of leukocytes, which liberates the cytase or alexin from them into the surrounding fluid.

But even though it becomes generally accepted, as seems likely, that all alexin is derived from leukocytes the relation of Bordet's sensitizer to phagocytosis in acquired immunity remains to be explained. It is admitted that the sensitizer of immune serum is free even in the plasma and in no sense an artificial product, as may be the case with alexin. The work of Denys and his pupils, which began in 1895,[26] threw the first light on this important question. Denys studied the protective and curative effect of an antistreptococcus serum on rabbits that had been infected with the streptococcus. He finds that the immunity afforded by this serum is due to its effect on the micro-organisms which renders them more readily taken up by phagocytes; the leukocytes themselves in the immunized animals do not differ from those of the normal animal. In 1902 Savtchenko[27] noted that a hemolytic serum likewise increases the susceptibility of the specific red blood-cells to phagocytosis. Neufeld and Rimpau[28] have followed the lead suggested by Denys and worked out with great care the effect of their "bacteriotropins," by which name they designate those substances in an immune serum which favor phagocytosis.

In 1903 A. E. Wright[29] described under the name of "opsonins" certain substances in the serum of human beings which when estimated quantitatively are supposed to indicate the intensity of the resistance of the individual to a given infection. Wright was able apparently to increase these protective opsonins, in case of lack, by "vaccination" with killed cultures of the micro-organism in question. Although Wright's work has the merit of attracting attention to the principle of cure by vaccination it is marred from a scientific standpoint by his failures to recognize the relation of his "opsonins" to the substances described by Denys, and particularly by the lack of fundamental experimental work on animals which subsequently in the hands of others has given us a more judicious attitude towards the theoretical and practical interest of his discovery. Animal experimentation has shown that even under the best experimental conditions, little value can be ascribed to Wright's "opsonic index" as an indication for specific treatment, grateful as such a method would be if accurate. Experimental work has further shown that the "immune opsonins" of Wright are probably identical with the "bacteriotropins" of Neufeld and Rimpau and probably differ quantitatively only from Wright's normal opsonins. Although Wright's first observations, which were not made under the best experimental conditions, led him to believe that his opsonins differed from the sensitizers of Bordet (Ehrlich's amboceptors) inasmuch as they are apparently thermolabile (55 C.), there now seems no reason for this artificial separation.

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[20] Pfeiffer: Ztschr. f. Hyg., 1894, xviii, 1.

[21] Bordet-Gay: Studies in Immunity, pp. 8 and 56.

[22] Bordet-Gay: Studies in Immunity, p. 134 and subsequent chapters.

[23] Ehrlich-Bolduan: See Collected Studies in Immunity, ed. 2.

[24] Bordet-Gay: Studies in Immunity, p. 363.

[25] Gay and Luçás: Proc. Soc. Exper. Biol. and Med., 1910, vii, 21.

[26] Denys and Leclef: La cellule, 1895.

[27] Savtchenko: Ann. de l'Inst. Pasteur, 1902.

[28] Neufeld and Rimpau: Deutsche med. Wchnsch., 1904, and Ztschr. f. Hyg., 1905.

[29] Wright, Sir A. E.: Studies in Immunization, Constable, 1909.

The following summary is, I believe, consistent with the facts at our disposal and is offered as a simple explanation of anti-infectious immunity. Bacteria are destroyed in the body of an immune animal by the action of two substances, the sensitizer which is the specific result of immunization, and which lies free in the plasma, and the alexin which under usual conditions in the body lies within the phagocyte. If phagocytosis has taken place the alexin works *in situ;* if phagolysis occurs the alexin is liberated and acts in the fluid extracellularly. There is, further, reason to believe that the more potent the sensitizer the more likely it is that phagolysis should occur, and in all events the greater the sensitization is the less the alexin required.

In vitro the bacteria are destroyed in a similar manner except that under such conditions when fresh serum is employed free alexin is the rule. When the alexin employed has been retained in the phagocyte as in the case in opsonin experiments, the destruction is intracellular subsequent to phagocytosis. The reason that normal opsonins are apparently thermolabile is because the normal extracellular alexin is destroyed and the normal opsonin (sensitizer) is not sufficiently potent to draw out the intracellular alexin or to cause the opsonized bacterium to be drawn within the cell. The destruction of the extracellular alexin is immaterial, however, in the case of immune opsonins (bacteriotropins) as their strong sensitizing power either makes use of a trace of alexin liberated by the phagocytes or else suffices to draw the treated bacteria within the cell.

The discovery of the artificial hemolysins gave rise to the hope that specific immune serums for other animal cells might be produced. The possibility of a specific epitheliolysin was particularly alluring in view of treatment of malignant tumors. The general conception of the cytolysins now is that they are specific for any cell of the species that has furnished the antigenic tissue rather than for any particular type of cell.

At this point may be mentioned certain other properties of immune serums that were discovered in connection with the studies on bacteriolysis and hemolysis. Charrin and Roger[30] noted as early as 1889 that a specific serum which was active against *B. pyocyaneus* would clump cultures of this bacterium and the specific nature of this phenomenon of agglutination and many of the factors that control it were worked out by Bordet in 1895.[31] The applicability of the agglutination reaction in the diagnosis of bacterial infections was exploited by Gruber and Durham in 1896.[32] The early work of Kraus, 1897,[33] of Tschowitsch[34] and of Bordet, 1899[35] with bacteriolytic and hemolytic serum disclosed the specific phenomenon of precipitation, which was soon applied in the well-known forensic test for blood by Wassermann and by Uhlenhuth.

In concluding this outline of the development of immunology mention should be made of the interesting phenomenon of anaphylaxis or increased susceptibility, which under certain conditions follows injection of harmful proteins such as bacteria or of non-toxic proteins like horse serum. Rosenau and Anderson[36] and Otto[37] (1906) were first to draw attention to this condition, although it had been previously described and named by Richet. Rosenau and Anderson described the violent convulsive reaction, frequently followed by death, which follows the injection of horse serum in guinea-pigs that have previously received a minute dose of the same substance. Similar reactions have been studied following injections of bacteria. This extraordinary condition, which is apparently the opposite of the protective reactions of immunity, bears some mysterious but undoubted relation to the latter process. Although the outcome of the numerous studies on the relation of anaphylaxis to immunity now in progress are doubtful, little doubt may be entertained as to their theoretical interest and practical importance.

CONCLUSION

This article has attempted to outline step by step the development of immunology, a science worthy of specialized consideration both on account of its biological interest and its vital applicability. Nothing more than a suggestion of the application of immunology has been given. It has been evident that no true conception of the principles of immunity was possible until the methods of experimentation on living animals were applied. And each successive principle determined has of necessity depended on further animal experimentation. The sacrifice of animal life necessitated in acquiring our present knowledge of the mechanism of animal resistance to disease would seem justified from the standpoint of theory alone. In view of the present and potential value of applied immunology in the diagnosis, the prevention, and the cure of human and animal disease, skilled animal experimentation necessitates the encouragement of every humanitarian.

University of California.

Differential Diagnosis of Traumatic Neurasthenia.—Head injuries and railway accidents causing cerebral commotion, without producing actual brain lesions, may set up a traumatic neurasthenia, but general paralysis of the insane not infrequently follows a head injury in an individual predisposed by his past life to that disease, and it may be difficult to decide whether the patient is suffering from traumatic neurasthenia or the prodromal stage of general paralysis, unless a careful examination and investigation be made.—F. W. Mott, in the *Practitioner.*

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[30] Charrin and Roger: Compt. rend. Soc. de biol., 1889, p. 667.

[31] Bordet-Gay: Studies in Immunity, p. 142.

[32] Gruber and Durham: München. med. Wchnschr., 1896, p. 285.

[33] Kraus: Wien. klin. Wchnschr., 1897, No. 32.

[34] Tschowitsch: Ann. de l'Inst. Pasteur, 1899.

[35] Bordet-Gay: Studies in Immunity, p. 148.

[36] Rosenau and Anderson: Jour. Med. Research, 1906, xv, 179.

[37] Otto: Leuthold Gdnkschr., Berlin, 1906.

TRANSFUSION IN PELLAGRA

A REVIEW OF TWENTY CASES *

H. P. COLE, M.D.
MOBILE, ALA.

August 4, 1908, I employed the first transfusion in the terminal stages of pellagra. Encouraged by the immediate improvement and rapid recovery in this patient, in collaboration with Dr. Gilman J. Winthrop, I have since transfused nineteen additional patients in the terminal stages of the disease.

Whereas we are unable to draw positive conclusions from this number of cases, we believe that certain valuable deductions may be derived from the statistics which they present. We have endeavored to preserve a spirit of scepticism and unbiased judgment throughout our investigations, and to draw accurate conclusions from the data presented.

Transfusion has been resorted to only in cases in the last stages of pellagra, or steadily retrograding under prolonged and careful treatment by approved therapeutic measures. To illustrate the type of cases in which transfusion has been employed, it is sufficient to state that two patients were moribund at the time of operation, and one patient died on the railway train twenty minutes before arriving at Mobile for transfusion.

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Transfused	20
Females, aged 22-53	16
Males, aged 3-42	4

We note that the females (16, or 80 per cent.) were four times as numerous as the males (4, or 20 per cent.).

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Recoveries (60 per cent.)	12
Deaths (40 per cent.)	8
Relapse (8 3 per cent.)	1

This relapse occurred two years after recovery in an institutional patient exposed to reinfection.

	Cases
Temporary improvement followed by death	2
No improvement following transfusion	6
Complications incompatible with recovery	2

Patient 1, a male, aged 42, whose case was complicated with tuberculous peritonitis, showed temporary improvement for several days, but died one month after the operation.

Patient 2, a male, aged 3, showed distinct improvement following transfusion, but died eight days later from intestinal perforation.

	Cases
Complications presenting insufficient flow of blood, followed by death	2

In Case 1 the only available donor permitted insufficient transfusion through a severe degree of arteriosclerosis. In Case 2 inadequate operative surroundings and a neurotic 14-year-old boy as the only available donor permitted insufficient transfusion.

	Cases
Patients moribund at operation followed by death	2

It will be noted that four of the eight cases in which death resulted might well be excluded, for the following reasons: Two patients received an inadequate amount of blood at transfusion and two were moribund at the time of operation. Excluding these four cases, the mortality rate would be 25 per cent. as compared with 40 per cent. in the entire series. Considering the grave mortality rate in the type of patients on whom transfusion was performed, we can but feel that our mortality rate of 40 per cent. in the entire twenty cases compares most favorably with the mortality (80 to 90 per cent.) in this type of cases treated by other therapeutic procedures. We have been unable to observe that transfusion was a direct factor of death in any of the cases; the deaths followed in periods of from three hours to one month after operation. One patient manifested symptoms of cocainism, necessitating a termination of transfusion at the end of fifteen minutes. This patient, however, made an excellent recovery from pellagra. Neither hemolysis nor agglutination, thrombosis nor embolism, have been observed in any of the cases.

Of the recovered patients (seventeen) there were: females, eleven (68.8 per cent), and males, one (25 per cent). We note a far greater percentage of recovery in the females. All the recovered patients presented distinct and severe lesions of pellagra; there were marked emaciation, asthenia, anemia, reflex excitability, and in many cases grave mental changes. Severe pellagra erythema, stomatitis, and diarrhea were present in a majority of the cases. Within a few days after transfusion there was either alleviation or disappearance of all the symptoms of pellagra; there was a rapid disappearance of the pellagra erythema, stomatitis and diarrhea, and also a gradual alleviation of the mental and nervous symptoms. In several cases there was an astonishing improvement in the patient's mental condition, shortly following operation. In all cases there was rapid increase in the patient's hemoglobin index, a rapid return of body strength, a return of digestive faculties, and an increase of body weight. All the recovered patients gained from three to eight and one-half pounds in the first week following transfusion; one patient gaining thirty-four pounds within eleven weeks. All the recovered patients have returned to a normal condition within from one to four months after operation; several are in better physical condition than they have presented for years. The patient relapsing two years after transfusion was living in an institution and was constantly exposed to pellagra, and it is fair to assume that this case may be considered a re-infection, rather than a relapse.

It is but just to state that all approved therapeutic procedures were employed in the recovered cases, both previous to and following the operation. As these procedures were employed without beneficial effect previous to the operation, it is fair to asume that they were unimportant factors in the recoveries after transfusion.

We have been unable to ascertain a constant clinical sign that would indicate a certainty of recovery following transfusion. A moribund state of the patient and complication of pellagra with pathologic conditions contra-indicate the employment of transfusion. The necessity of resorting to transfusion can be ascertained only on the appearance of positive signs of retrogression under approved institutional and constitutional therapeutic agents.

A majority of the patients referred for transfusion have recovered through hygienic, supportive treatment, not necessitating the employment of transfusion.

Transfusion, itself a delicate procedure, should be attempted only by those experienced in the technic, with a full knowledge of the dangers of the operation, and in adequate surroundings for its performance, and with the proper post operation treatment.

In these transfusions we have endeavored to employ donors who have lived in the same environment as the recipients, assuming that such donors who have not contracted pellagra possess a certain degree of immunity.

Transfusion was resorted to from donors who had recovered from pellagra in three cases; recovery occurred in one case (33⅓ per cent.). This case relapsed two years following transfusion.

Transfusion was made from donors who had never had pellagra in seventeen cases; recovery ensued in eleven cases (64.7 per cent.).

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We may assume that there is, at least, no preference of a donor who has had pellagra over a donor who has never had pellagra.

Transfusion was resorted to from donors who were relatives of the patient, but who had never had pellagra, in seven cases. Recovery occurred in three cases (42.8 per cent.).

Transfusion was made from donors who were not relatives and who had never had pellagra in ten cases; recovery in eight cases (80 per cent.).

Here we may assume, at least, that there is no ground for preference of the use of a relative over the use of a non-relative.

We are unable to state from the statistics available that there is any immune principle transferred by transfusion. It is probable that any beneficial results obtained may be attributed to the relief of the existing anemia, permitting the patient's organism to approach its normal functional activities and thus to combat the progress of the disease.

CONCLUSIONS

In transfusion in twenty cases of pellagra, we have found no ill effect resulting to the patients directly from the operation. We may safely resort to transfusion in the severe type of case, steadily retrogressing under approved therapeutic procedures.

We have noted no advantage in the employment of a donor who has recovered from pellagra as compared with the donor who has never had pellagra.

There is apparently no advantage in the use of a relative for a donor as compared to the use of a non-relative.

The recoveries (60 per cent.) following transfusion in the grave type of cases, compares most favorably with the recoveries (10 to 20 per cent.) in the same type of cases in which other therapeutic measures are employed.

The employment of transfusion in the terminal stages of pellagra must be undertaken with a full knowledge of the difficulties and dangers of the operation. Without careful selection of the cases and unprejudiced conclusions, this procedure will fall into an undeserved ill repute.

202 Conti Street.

EXPERIMENTAL POLIOMYELITIS IN MONKEYS

NINTH NOTE: IMMUNITY PRINCIPLES; EFFECTS OF HEXAMETHYLENAMIN (UROTROPIN); EARLY DIAGNOSIS; VIRUS-CARRIERS*

SIMON FLEXNER, M.D.
AND
PAUL F. CLARK, Ph.D.
NEW YORK

In previous publications,[1] we have shown that an attack of experimental poliomyelitis protects against reinfection with the virus of the disease, and that the blood of monkeys and of persons who have recovered from the acute effects of epidemic poliomyelitis contains neutralizing principles for the virus on which their immunity must be considered to depend. The immunity principles have been shown to reside in the blood-serum and are, therefore, probably of the nature of antibodies. The course of epidemic poliomyelitis in its acute stage is not known to be influenced by any form of medication, whence it follows that it is a self-limiting process, as are so many of the infections; and at present we must view this condition of self-limitation as being determined by the elaboration within the body, under the influence of the virus of the disease, of substances of the nature of antibodies, the so-called immunity principles.

IMMUNITY PRINCIPLES IN ABORTIVE CASES

What have come to be designated abortive cases of epidemic poliomyelitis are now playing an important part in the discussion of the mode of transmission of the disease. Our knowledge of this class of cases is still very imperfect, and doubt even exists of their occurrence at all. Until greater refinement and accuracy are introduced into diagnosis, this doubt must continue to arise. It is desirable, therefore, to present evidence that bears on the occurrence of this type of the disease.

It is possible by means of neutralization tests to determine in a given instance whether an attack of poliomyelitis was or was not suffered, and this independently of the circumstance whether or not paralysis was present. The test is made by mixing the blood-serum with the filtered virus, incubating the mixture at 37 C. for a few hours, and injecting it into a monkey. Normal human serum has no power to neutralize the virus, while the serum from recovered cases of poliomyelitis possesses this power. Dr. Richard Stein, of New York, kindly supplied us with the blood taken from a patient suspected of having passed through such an abortive attack, in which the neutralizing immunity principles were demonstrated. This method does not provide a means of diagnosis, but it is of value in establishing the occurrence of abortive cases of epidemic poliomyelitis.

DISTRIBUTION OF IMMUNITY PRINCIPLES

Up to the present, the immunity principles have been established to exist in the blood of men and monkeys who have passed through the acute stage of the disease. We have already emphasized the lesions of the leptomeninges that result from infection with the virus of poliomyelitis and the changes, corresponding to them, that take place in the cerebrospinal fluid. It is of interest to ascertain whether or not the immunity principles exist in the cerebrospinal fluid, whether or not they may originate there, and, hence, whether or not the control of the lesions of the meninges and the nervous tissues is in any degree dependent on such a local production. We are enabled to determine these points by reason of the circumstance that the secretion of antibodies from the blood into the subdural space and the cerebrospinal fluid takes place, under normal conditions, practically not at all. Should they be found there, they must either have arisen locally, or have been secreted there from the blood because of abnormalities that increase the permeability of the blood-vessels.

We have examined a number of specimens of the cerebrospinal fluid obtained from patients at various periods after the disappearance of the acute stages of poliomyelitis, but at times when paralysis of one or more extremities still persisted. In some instances, the blood and cerebrospinal fluid were taken simultaneously and both tested for neutralizing power. The results are instructive. During the first one or two months, the immunity principles may exist both in the blood and in the cerebrospinal fluid, but, even at this early period, the principles demonstrated to be present in the blood have not always been detected in the fluid. At later

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* From the Laboratories of the Rockefeller Institute for Medical Research.

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periods and after one or more years, it is highly exceptional to secure neutralization of the virus by means of the fluid. The conclusion, therefore, is that during the earlier stages of epidemic poliomyelitis, when the blood-vessels of the leptomeninges and the central nervous system are abnormally pervious, the immunity antibodies escape into the membranes and nervous tissue; but as the vessels return to normal, the antibodies are no longer secreted and thus tend to disappear. It is probably in exceptional instances only, in which the vascular repair is delayed, that the secretion continues over a long period of time.

The immunity principles persist in the blood for several years, and it is probable, therefore, that they are elaborated in the situations, namely, in the lymphatic and blood-forming organs, in which antibodies in general are prepared. This point is of interest in view of our meager knowledge of the occurrence of the virus of poliomyelitis in organs at a distance from the central nervous system. In view of the facts stated, it may be deduced that to the circulating antibodies, rather than to those locally present in the cerebrospinal fluid, are due the limitation and repair of the damage inflicted on the nervous system by the infection, and the enduring protection of the body from reinfection.

EFFECTS OF HEXAMETHYLENAMIN

Since Cushing and Crowe showed that hexamethylenamin (urotropin) is in part eliminated into the subdural space, the drug has been employed to produce disinfection of the cerebrospinal fluid. It has been applied to the treatment of epidemic poliomyelitis by Dr. Roger S. Morris, of Baltimore, who first drew our attention to the matter, and by others. It is highly difficult, if not impossible, to determine clinically in human beings whether its administration is of any value, since its use has been empiric and it is clearly not a specific. However, it may still not be without a degree of beneficial action.

The drug is well borne by the monkey and we have tested its action under a variety of conditions on this animal. When a large dose of the drug is administered by mouth, its presence can be demonstrated by chemical tests in the cerebrospinal fluid soon afterwards. We have ascertained that when the virus of poliomyelitis is injected intracerebrally in monkeys in which the hexamethylenamin is already present in the fluid, and the drug is then administered by mouth daily thereafter, that in a proportion of animals so treated, but not in all, first, the incubation period of the disease is prolonged (from six to eight days to twenty-four days), and, next, the onset of paralysis is entirely prevented. When the drug is administered by mouth and the immune monkey-serum by injection into the subdural space, the paralysis can also be prevented and possibly with greater certainty.

We have not yet determined whether the animals surviving infection with the virus as a result of the administration of hexamethylenamin exhibit any greater resistance to reinoculation than untreated animals do to a primary inoculation. Should the multiplication of the virus have been entirely suppressed, we should not expect to find an increased degree of resistance. In immune serum protection, the susceptibility to reinfection is about equal to that shown by untreated animals.

In considering the significance of these observations, two points are of importance: first, it has now been shown that drug control of the virus of poliomyelitis within the body is a possibility; but, second, that the successful results have been secured in inhibiting infection and not in restraining an already established infection with the virus.

EARLY DIAGNOSIS

The importance of securing methods of early and certain diagnosis of epidemic poliomyelitis is self-evident. With the growing significance of the abortive and mild cases in disseminating the infection, and with the increasing promise of a better therapeutic control of the disease, early diagnosis becomes a necessity. We have already pointed out that by taking advantage of the changes which regularly take place in the cerebrospinal fluid, it is possible, early in the course of the infection, to arrive at a certain diagnosis. We based this view and recommendation on the condition of the cerebrospinal fluid occurring in monkeys successfully inoculated with the virus of poliomyelitis. In these animals the increase in cells and protein takes place and reaches its height prior to the onset of the paralysis, after which there tends to be a rapid diminution in the protein content of and a slower reduction in the number of cells within the fluid. The cerebrospinal fluid is incorrectly described as "clear" in the beginning stages of the lesions of the meninges; and this error has arisen because practically all the examinations have been made after the appearance of the paralysis or other severe symptoms, and usually many days after their appearance.

The cerebrospinal fluid at the height of the lesions in the meninges exhibits a very slight turbidity or opalescence, best seen on gently agitating the fluid and due to a large increase in white corpuscles. It contains an excess of protein matter. The white corpuscles consist partly of polymorphonuclear and partly of mononuclear (lymphatic) cells. The excess of protein is readily detected by applying Noguchi's butyric acid test. Very rarely, the fluid is distinctly turbid and the polymorphonuclear cells predominate. Bacteria are absent. In rare instances, it becomes necessary to exclude tuberculous meningitis, which can be done by an examination for tubercle bacilli.

We have been able in a case of Dr. L. F. Frissell's[2] to determine that the facts just stated hold good also for human beings, the victims of epidemic poliomyelitis. An early and certain diagnosis of the disease in a suspicious instance has been made by examining the cerebrospinal fluid in the manner indicated. The paralysis was observed to follow the height of the cellular and protein changes in the fluid, and the cessation of the extension of the paralysis to coincide with a beginning reduction in these changes, as is the case in the monkey.

VIRUS-CARRIERS

In monkeys the virus of epidemic poliomyelitis passes from the meninges into the nasal mucosa, and infection can be readily achieved by bringing the virus into contact with the scarified mucous membrane. We have, therefore, suggested that the nasopharynx acts in human beings as the portal of entry of the virus into the central nervous system, as well as the source of its dissemination to other human beings. Concerning the habitat of the virus in nature, outside of infected persons, we have had no definite knowledge. The determination by Osgood and Lucas[3] that the virus can survive in the nasopharynx of the monkey for nearly six months and long after the acute stage of the disease has passed has, therefore, high significance with reference to the epidemiology of the disease. At this late period, the virus no longer survives in the nervous system. Indeed, the virus has not been detected in the nervous system after the lapse of three or four weeks, and often not after the first few days following the appearance of the paralysis. We have just demonstrated the virus in the nasal and pharyngeal mucosa of a monkey which survived the paralysis more than four weeks, and failed, in the same animal, to detect it in the spinal cord.

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[2] Report to be published soon.

[3] THE JOURNAL A. M. A., Feb. 18, 1911, p. 495.

These observations indicate that monkeys successfully inoculated become, in some instances after recovery from the effects, passive carriers of the virus. Whether the same fact will prove to be true of human beings remains to be determined. *In no instance has the nasal and pharyngeal mucosa of a person who has succumbed to epidemic poliomyelitis been examined for the virus.* It has now become imperative to make such examinations: for on the results will depend in considerable degree the measures which will come to be adopted to control the spread of the infection.

Sixty-Sixth Street and Avenue A.

CULTIVATION IN VITRO OF RAT SARCOMA

A STUDY IN IMMUNITY*

R. A. LAMBERT, M.D., AND F. M. HANES, M.D.
NEW YORK

In a recent note[1] we showed that the method of cultivating tissues *in vitro*, devised by Harrison for the study of the developing nerve-fiber in frog embryos, and applied with modifications to the tissues of higher animals by Carrell and Burrows, could be adapted easily to the transplantable sarcomata of rats and mice. The present paper is concerned with the application of this method to the investigation of the nature of tumor immunity.

The phenomena of resistance and susceptibility to the inoculable tumors of these animals have been exhaustively studied. It may be stated summarily that immunity to tumor growth does not correspond to any of the types of immunity produced by the reaction of the body to infective organisms and their products. Specific antibodies have never been demonstrated in the blood-serum of animals immune to cancer. Moreover, Russell[2] has shown that, in immune mice, inoculated cancer tissue fails to grow because of the absence of a specific stroma reaction on the part of the host, and not because of the presence of cytotoxic or cytolytic substances acting on the implanted grafts. Or, stated differently, in immune animals, the implanted cancer cells lose their power of calling forth a stroma reaction. Nothwithstanding the absence of a stroma, the tumor cells remain alive and proliferate for eight to ten days.

Sarcoma cells growing in blood-plasma find in the fibrin network an artificial stroma, so that the influence of the plasma alone may be held accountable if sarcomatous tissue, which grows very readily in normal plasma, fails to grow in the plasma of immune animals.

Two kinds of immunity to cancer are recognizable, natural and artificial. The percentage of naturally immune animals (nullers) varies with age and with different varieties and strains. Old animals are, as a rule, less susceptible than young. Artificial immunity may be induced by the injection of suitable quantities of certain tissues, as, blood, spleen, embryonic tissues, etc.

In the present experiments we have used five types of immune animals: (1) nullers from a strain of rats in which sarcoma inoculations yield 80 to 90 per cent. of "takes"; (2) nullers from a hooded variety of rats in which the percentage of "takes" is only twenty to thirty (racial immunity); (3) immune old animals whose immunity was most probably attributable to their age; (4) animals immune to both rat sarcoma and carcinoma, and which had received immunizing doses of mouse sarcoma (pan-immunity); and (5) artificially immunized rats. We have used the plasma from animals of each of these five types of immunity, and have found that rat sarcoma grows in all without exception. The character of growth differed in no essential way from that observed in control specimens in which normal rat plasma was used. These results are in harmony with the observations of Russell which we have mentioned already.

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SUBCULTURES

Sarcoma growing *in vitro* may be readily grown in subcultures by transferring the original piece or a portion of the outgrowth to new plasma. Prolongation of life seems dependent only on the renewal of the medium. We have specimens growing at present which have been subcultured in this manner five times at intervals of two to four days. The plasma used was obtained from normal and immune animals, and the growth was as vigorous in the one as in the other.

437 West Fifty-Ninth Street.

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* This research was conducted under the George Crocker Special Research Fund.

* From the Department of Pathology, College of Physicians and Surgeons, Columbia University.

[1] Lambert and Hanes: Growth in Vitro of the Transplantable Sarcomas of Rats and Mice, THE JOURNAL A. M. A., Jan. 7, 1911, p. 33.

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Local Cutaneous Reaction to Sodium Glycocholate in Syphilitics.—Loeper and Desbouis state that intradermal injection of a drop or two of a 0.5 or 0.2 per cent. solution of sodium glycocholate failed to cause any reaction in sixty-three healthy persons or those with non-venereal affections, while a pronounced local reaction followed invariably in eighty-one persons in the first, second or third stage of syphilis, with only a single exception in the latter class. A positive reaction was also obtained in one of nine patients with tabes dorsalis or paresis. The local erythema or ulceration developed from the eighteenth to the thirty-sixth hour and persisted for from two to five days. The findings with this "dermo-reaction," as they call it, paralleled with precision the Wassermann reaction and the Porges precipito-reaction. As there is nothing specific about the sodium glycocholate, the reaction, they state, merely indicates some profound biologic modification of the organism by the parasite and, like all biologic reactions, is not of invariable occurrence. It gave useful information in their experience in several dubious cases, differentiating the syphilitic from tuberculous and other ulcerations, etc. Their communication is published in the *Progrès Médical*, Jan. 21, page 231.

periods and after one or more years, it is highly exceptional to secure neutralization of the virus by means of the fluid. The conclusion, therefore, is that during the earlier stages of epidemic poliomyelitis, when the blood-vessels of the leptomeninges and the central nervous system are abnormally pervious, the immunity antibodies escape into the membranes and nervous tissue; but as the vessels return to normal, the antibodies are no longer secreted and thus tend to disappear. It is probably in exceptional instances only, in which the vascular repair is delayed, that the secretion continues over a long period of time.

The immunity principles persist in the blood for several years, and it is probable, therefore, that they are elaborated in the situations, namely, in the lymphatic and blood-forming organs, in which antibodies in general are prepared. This point is of interest in view of our meager knowledge of the occurrence of the virus of poliomyelitis in organs at a distance from the central nervous system. In view of the facts stated, it may be deduced that to the circulating antibodies, rather than to those locally present in the cerebrospinal fluid, are due the limitation and repair of the damage inflicted on the nervous system by the infection, and the enduring protection of the body from reinfection.

EFFECTS OF HEXAMETHYLENAMIN

Since Cushing and Crowe showed that hexamethylenamin (urotropin) is in part eliminated into the subdural space, the drug has been employed to produce disinfection of the cerebrospinal fluid. It has been applied to the treatment of epidemic poliomyelitis by Dr. Roger S. Morris, of Baltimore, who first drew our attention to the matter, and by others. It is highly difficult, if not impossible, to determine clinically in human beings whether its administration is of any value, since its use has been empiric and it is clearly not a specific. However, it may still not be without a degree of beneficial action.

The drug is well borne by the monkey and we have tested its action under a variety of conditions on this animal. When a large dose of the drug is administered by mouth, its presence can be demonstrated by chemical tests in the cerebrospinal fluid soon afterwards. We have ascertained that when the virus of poliomyelitis is injected intracerebrally in monkeys in which the hexamethylenamin is already present in the fluid, and the drug is then administered by mouth daily thereafter, that in a proportion of animals so treated, but not in all, first, the incubation period of the disease is prolonged (from six to eight days to twenty-four days), and, next, the onset of paralysis is entirely prevented. When the drug is administered by mouth and the immune monkey-serum by injection into the subdural space, the paralysis can also be prevented and possibly with greater certainty.

We have not yet determined whether the animals surviving infection with the virus as a result of the administration of hexamethylenamin exhibit any greater resistance to reinoculation than untreated animals do to a primary inoculation. Should the multiplication of the virus have been entirely suppressed, we should not expect to find an increased degree of resistance. In immune serum protection, the susceptibility to reinfection is about equal to that shown by untreated animals.

In considering the significance of these observations, two points are of importance: first, it has now been shown that drug control of the virus of poliomyelitis within the body is a possibility; but, second, that the successful results have been secured [illegible] fection and not in restraining an [illegible] infection with the virus.

EARLY DIAGNOSIS

The importance of securing methods of early and certain diagnosis of epidemic poliomyelitis is self-evident. With the growing significance of the abortive and mild cases in disseminating the infection, and with the increasing promise of a better therapeutic control of the disease, early diagnosis becomes a necessity. We have already pointed out that by taking advantage of the changes which regularly take place in the cerebrospinal fluid, it is possible, early in the course of the infection, to arrive at a certain diagnosis. We based this view and recommendation on the condition of the cerebrospinal fluid occurring in monkeys successfully inoculated with the virus of poliomyelitis. In these animals the increase in cells and protein takes place and reaches its height prior to the onset of the paralysis, after which there tends to be a rapid diminution in the protein content of and a slower reduction in the number of cells within the fluid. The cerebrospinal fluid is incorrectly described as "clear" in the beginning stages of the lesions of the meninges; and this error has arisen because practically all the examinations have been made after the appearance of the paralysis or other severe symptoms, and usually many days after their appearance.

The cerebrospinal fluid at the height of the lesions in the meninges exhibits a very slight turbidity or opalescence, best seen on gently agitating the fluid and due to a large increase in white corpuscles. It contains an excess of protein matter. The white corpuscles consist partly of polymorphonuclear and partly of mononuclear (lymphatic) cells. The excess of protein is readily detected by applying Noguchi's butyric acid test. Very rarely, the fluid is distinctly turbid and the polymorphonuclear cells predominate. Bacteria are absent. In rare instances, it becomes necessary to exclude tuberculous meningitis, which can be done by an examination for tubercle bacilli.

We have been able in a case of Dr. L. F. Frissell's[2] to determine that the facts just stated hold good also for human beings, the victims of epidemic poliomyelitis. An early and certain diagnosis of the disease in a suspicious instance has been made by examining the cerebrospinal fluid in the manner indicated. The paralysis was observed to follow the height of the cellular and protein changes in the fluid, and the cessation of the extension of the paralysis to coincide with a beginning reduction in these changes, as is the case in the monkey.

VIRUS-CARRIERS

In monkeys the virus of epidemic poliomyelitis passes from the meninges into the nasal mucosa, and infection can be readily achieved by bringing the virus into contact with the scarified mucous membrane. We have, therefore, suggested that the nasopharynx acts in human beings as the portal of entry of the virus into the central nervous system, as well as the source of its dissemination to other human beings. Concerning the habitat of the virus in nature, outside of infected persons, we have had no definite knowledge. The determination by Osgood and Lucas[3] that the virus can survive in the nasopharynx of the monkey for nearly six months and long after the acute stage of the disease has passed has, therefore, high significance with reference to the epidemiology of the disease. At this late period, the virus no longer survives in the nervous system. Indeed, the virus has not been detected in the nervous system after the lapse of three or four weeks, and often not after the first few days following the appearance of the paralysis. We have just demonstrated the virus in the nasal and pharyngeal mucosa of a monkey which survived the paralysis more than four weeks, and failed, in the same animal, to detect it in the spinal cord.

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[2] Report to be published soon.

[3] The Journal A. M. A., Feb. 18, 1911, p. 495.

These observations indicate that monkeys successfully inoculated become, in some instances after recovery from the effects, passive carriers of the virus. Whether the same fact will prove to be true of human beings remains to be determined. In no instance has the nasal and pharyngeal mucosa of a person who has succumbed to epidemic poliomyelitis been examined for the virus. It has now become imperative to make such examinations; for on the results will depend in considerable degree the measures which will come to be adopted to control the spread of the infection.

Sixty-Sixth Street and Avenue A.

CULTIVATION IN VITRO OF RAT SARCOMA

A STUDY IN IMMUNITY[*]

R. A. LAMBERT, M.D., and F. M. HANES, M.D.
NEW YORK

In a recent note[1] we showed that the method of cultivating tissues *in vitro,* devised by Harrison for the study of the developing nerve-fiber in frog embryos, and applied with modifications to the tissues of higher animals by Carrell and Burrows, could be adapted easily to the transplantable sarcomata of rats and mice. The present paper is concerned with the application of this method to the investigation of the nature of tumor immunity.

The phenomena of resistance and susceptibility to the inoculable tumors of these animals have been exhaustively studied. It may be stated summarily that immunity to tumor growth does not correspond to any of the types of immunity produced by the reaction of the body to infective organisms and their products. Specific antibodies have never been demonstrated in the blood-serum of animals immune to cancer. Moreover, Russell[2] has shown that, in immune mice, inoculated cancer tissue fails to grow because of the absence of a specific stroma reaction on the part of the host, and not because of the presence of cytotoxic or cytolytic substances acting on the implanted grafts. Or, stated differently, in immune animals, the implanted cancer cells lose their power of calling forth a stroma reaction. Nothwithstanding the absence of a stroma, the tumor cells remain alive and proliferate for eight to ten days.

Sarcoma cells growing in blood-plasma find in the fibrin network an artificial stroma, so that the influence of the plasma alone may be held accountable if sarcomatous tissue, which grows very readily in normal plasma, fails to grow in the plasma of immune animals.

Two kinds of immunity to cancer are recognizable, natural and artificial. The percentage of naturally immune animals (nullers) varies with age and with different varieties and strains. Old animals are, as a rule, less susceptible than young. Artificial immunity may be induced by the injection of suitable quantities of certain tissues, as, blood, spleen, embryonic tissues, etc.

In the present experiments we have used five types of immune animals: (1) nullers from a strain of rats in which sarcoma inoculations yield 80 to 90 per cent. of "takes"; (2) nullers from a hooded variety of rats in which the percentage of "takes" is only twenty to thirty (racial immunity); (3) immune old animals whose immunity was most probably attributable to their age; (4) animals immune to both rat sarcoma and carcinoma, and which had received immunizing doses of mouse sarcoma (pan-immunity); and (5) artificially immunized rats. We have used the plasma from animals of each of these five types of immunity, and have found that rat sarcoma grows in all without exception. The character of growth differed in no essential way from that observed in control specimens in which normal rat plasma was used. These results are in harmony with the observations of Russell which we have mentioned already.

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ARSENIC IN SYPHILIS

A. HERZFELD, M.D.
NEW YORK

That mercury does not cure syphilis in all cases has been observed for many centuries. Christian Friedrich Harles[1] mentions the fact that Fallopius and Libavius used arsenic in the treatment of syphilis. F. Hoffmann[2] in the middle of the eighteenth century used the flores auri pigmenti diaphoretici, a sulphid of arsenic, satisfactorily in the treatment of "lues venerea inveterata," in cases in which mercury proved of no avail, and in cases in which ptyalism and mercurial poisoning were produced. Hoffmann asserts that he obtained excellent results by the internal administration of arsenic in the treatment of indolent syphilitic lymph-nodes, cachexia syphilitica, and in syphilitic periostitis. C. Ziegenbuchler[3] used arsenic internally in the treatment of syphilitic arthritis with success. Horn[4] and Renner[5] treated old inveterate syphilitic lesions successfully with white arsenic. The use of arsenic in the treatment of syphilis is, therefore, by no means a modern invention.

Let us now see how salvarsan has fulfilled Ehrlich's ideas in the treatment of syphilis. Was the early enthusiasm which followed the use of this preparation an enthusiasm largely due to the fact that a new remedy was announced by one of the greater leaders in medicine, justified? Are the results following the use of salvarsan comparable to those which we expect from the administration of quinin in malaria? The answer to the question has been furnished by Neisser at the medical congress at Koenigsberg, Sept. 20, 1910. Neisser, a most profound observer, whose use of salvarsan has been very extensive, recommends a primary injection of salvarsan and repeats this injection after from three to six weeks; in nearly all cases he subjects the patient during this three or six weeks' intermission to a regular treatment with mercury in the form of injections with gray oil. This procedure is to be repeated until a permanent negative Wassermann reaction is obtained.

Despite the reported apparently brilliant results that have been obtained with the injection of salvarsan recurrences are being reported with greater and greater frequency, forcing us to the conclusion that a *sterilisatio magna* in Ehrlich's sense is in many cases not possible. The use of mercury and potassium iodid and in some cases quinin, in the treatment of syphilis cannot in my opinion be eliminated at the present time, even though I believe that potassium iodid will not cure syphilis, but mercury has cured in many cases, which some of the salvarsan enthusiasts seem to have forgotten entirely. The enthusiasm reached such a point that it was predicted that such metasyphilitic diseases as tabes and general paresis were a thing of the past.

In the treatment of syphilis, there are undoubtedly many factors which Ehrlich's inspiring researches do not fully explain. Why, for instance, do cases occur in which mercury brings about a rapid disappearance of all syphilitic manifestations, although the Wassermann reaction remains positive? Why does an early tabes and progressive paralysis sometimes occur in certain patients who have been subjected to a thorough course of treatment? Why does a positive Wassermann reaction persist years after the primary infection in some patients who have not been treated with mercury, and who nevertheless do not acquire tabes or paresis? On the other hand, it is well known that there are cases, an appreciable number of them, which do badly under any form of chemotherapy.

The most important field for the use of the Ehrlich-Hata preparation is in the acute stages of syphilis, in which forms this remedy has proved of paramount value. Even if it does nothing more than to heal the primary lesion as rapidly as it does, and thereby prevent a further invasion of the system, and close an avenue of infection to others, it has accomplished a great deal. In the treatment of the chronic inveterate forms of syphilis its use has, as yet, not been sufficiently extensive to enable us to judge of its powers.

In the treatment of some of the diseases of the blood-forming organs, severe anemia, pernicious anemia, pseudoleukemia and lymphatic swellings of various origin, including glandular tuberculosis, its use has not been attended with success. In these maladies the inorganic preparations of arsenic act more rapidly and are more lastingly efficient than the organic preparations, a response similar to those noted after the administration of the organic and inorganic iron preparations in the treatment of the anemias and of chlorosis.

In these maladies and in cases of inveterate syphilis, which responded no longer to mercury, I have used successfully a solution of arsenic, which I described[6] in 1909. The solution consists of 1 gm. arsenic trioxid and 2.25 c.c. normal soda solution in 100 c.c. of distilled water, representing a 1 per cent. solution of sodium arsenite, a solution which is very slightly alkaline. Its subcutaneous injection does not cause more inconvenience than an injection of morphin; its intramuscular injection is painless. Lately I have used the intramuscular method (glutei) exclusively. I have given these injections hundreds of times and I have never seen even the slightest tendency to suppuration. The skin before injection is disinfected with an alcoholic solution of iodin and potassium iodid, and the site of injection is sealed with a mixture of this iodin solution with tincture of benzoin in the proportion of 1 to 4, a procedure which I have have also reported elsewhere.[7]

I shall briefly report two cases of syphilis in which the results of treatment with my arsenic solution were exceedingly satisfactory.

In a woman, aged 32, in whom the secondary lesions were not affected in the least by injection of mercury for a period of six months, injections of my solution of arsenic brought about a rapid disappearance of all syphilitic lesions after fourteen injections.[8]

A young woman, aged 24, in whom syphilitic manifestations kept appearing for a period of five years after the initial lesion, despite active mercurial treatment, was completely cured after twenty-four injections of my arsenic solution. Repeated Wassermann reactions in this case were entirely negative.

I wish to say a few words regarding the use of certain preparations of arsenic in the treatment of syphilis, which, because of convenience in administration, are extensively used in this country. The sodium salt of cacodylic acid, the sodium dimethylarsenate, for instance, is supposed to possess the advantage of being less poisonous than the other arsenic compounds, and has therefore been recommended especially by the French authors. Fraser of Glasgow has shown, however, that the non-toxicity of the cacodylates is due to the fact that they are not split up within the body, and pass out in the urine unchanged. Schmiedeberg asserts that only a very minute quantity of the cacodylic acid is set free in the body and that this is excreted by the lungs and causes a disgusting garlic odor to the breath. I mention these facts merely because these preparations have been recommended lately in The Journal by Murphy and Caffrey.[9] As regards enesol, a French preparation of arsenic that has been recently much in vogue, mainly because of the simplicity of its administration, Bachem[10] asserts that this patented arsenic and mercury mixture is unreliable. The tablets of sodium arsenate on the market for hypodermic use vary in their chemical reaction. Some I found alkaline, some acid; their age is unknown, and their dosage not reliable.

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[1] Harles, Christian Friedrich: De arsenici usu in medicina, Norimbergae apud Ioan Leonhard Schrag, 1811.

[2] Hoffmann, F.: Observat. phys. med. sel. lii, obs. xii.

[3] Ziegenbuchler, C.: Jour. d. prakt. Arznk. u. Wundarznk., 1809, v.

[4] Horn, H.: Neues Arch. f. med. Erfahr., Berlin, 1807, iv, 257.

[5] Renner: Arch. f. med. Erfahr., Berlin, 1812. i, 189.

[6] *Herzfeld:* THE JOURNAL A. M. A., Feb. 13, 1909, p. 557.

[7] Centralbl. f. Chir., 1909, No. 24.

[8] New York Med. Monatschr., March, 1909, p. 371.

224 West Twenty-Fourth Street.

WEAK MEDICAL SCHOOLS AS NURSERIES OF MEDICAL GENIUS

HENRY S. PRITCHETT
President of the Carnegie Foundation for the Advancement of Teaching
NEW YORK

The "Report on Medical Education in the United States and Canada," prepared under the direction of the Carnegie Foundation by Mr. Abraham Flexner, was issued in June and has received in one way or another the criticism of nearly all medical journals and medical associations. Those who have represented the Carnegie Foundation in this matter have sought to examine such criticisms and comments in a fair and reasonable spirit. They have felt pleased that the essential facts stated in the report have received no serious contradiction. They have endeavored, on the other hand, to profit in the further study of medical education by the comments made and the criticisms offered.

It is to be remembered that this report was not a mere criticism of existing conditions. It aimed to point out accurately and frankly the present status of medical education; but it did much more than this. It attempted a thorough-going study of the medical curriculum and it suggested certain broad lines on which the medical curriculum might fairly be expected to develop in the immediate future.

In seeking to serve both of these ends the report inevitably bore with some sharpness on a large proportion of existing medical schools and particularly on those schools which are commercial in their organization; and by "commercial" it was not meant that those who carry on such schools always derive from them much remuneration in the way of money. A commercial school, in the sense in which the term was used in this report, is a school conducted and managed in the interest of the men who control it; these men expect to receive from it some form of reward, either direct or indirect. The report made clear the fact that all such schools are to-day offering a form of preparation for medicine which falls far below the grade of efficiency which the people of every state in the Union have a right to demand. It was to be expected that the sharpest replies to the report should come from those institutions whose organization and plan of control run squarely against the principles it advocates. In particular, the commercial medical establishments have in one form or another replied to the facts laid bare in the report, and the deductions made from these facts, with arguments of varying sincerity and relevancy.

The argument which was most commonly put forth at first was the time-worn plea for the poor boy. The poor school, it was argued, existed for the poor boy. This argument, however, had been so thoroughly anticipated in the report itself and was so clearly not in favor of the poor boy, but in favor of the poor medical school, that it has been practically given up by those who first resorted to its use. In its stead there has been presented in one quarter or another an interesting and singular plea. It is true, say those who put forward this second argument, that a large proportion of the men admitted into the weak medical schools are utterly unprepared; it is true that many of those graduated from such schools ought never to be admitted to practice. Nevertheless, they assert, every now and again in this army of the unfit and the unprepared the school finds some one whom it develops into a great physician or a great investigator—a genius in medical science—and it is worth while, say the advocates of such schools, to keep alive even the weakest medical schools for the sake of the occasional great men whom they may breed.

The most interesting effort to maintain this position which has come under my eye, and one which has been reprinted in many quarters, appeared in an editorial article in *American Medicine* in October. The attention which has been given to it arises largely out of the fact that the author undertakes to rebuke Mr. Abraham Flexner in his criticism of the University of Louisville Medical School on the ground that his distinguished brother, Dr. Simon Flexner, is a graduate of that institution. The article carries with it something of the force of an *argumentum ad hominem.*

The tenor of the article may be judged from the following extract:

> What we have stated about Dr. Simon Flexner—facts that no one will gainsay—show conclusively, though perhaps inefficiently, his great usefulness both to his confrères in medicine and to humanity in general. Measured by his scientific stature, his contributions to medicine and his achievements, Dr. Simon Flexner in the light of his brother's dicta concerning medical colleges and their capacities for developing useful physicians, should be a graduate of some one of the large and best-equipped universities. But alas, fate ordained differently, and, according to the last edition of the *American Medical Directory,* Dr. Simon Flexner, the saver of babies' lives, director of one of the world's most famous and most important scientific institutions, a splendid scholar, one of the world's greatest scientists, a man who already has achieved wonders in his chosen field, and one who, if his life is spared, will probably be responsible for the conquest of several of humanity's most fatal maladies, suffered the frightful handicap of equipping himself for his life's work at the University of Louisville Medical Department. . . .
>
> We realize that there are other phases of the question and a single case like this offers no real opportunities for comparisons or conclusions. But we still think it carries a valuable lesson and proves our contention that after all the personal equation is the important factor. We need all the Simon Flexners we can get, and a school that can help one such man in each decade to embark on a career so useful to his fellows and all mankind, has justified its existence, Brother Abraham notwithstanding.

It would be difficult to misrepresent the facts in the case more completely than they have been misrepresented here. The scientific work which Dr. Simon Flexner has done has all been in relation to the subjects of pathology and bacteriology. In the year 1889, when the University

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[9] Murphy, John B.: The Arsenical Treatment of Syphilis, The Journal A. M. A., Sept. 24, 1910, p. 1113. Caffrey, A. J.: Sodium Cacodylate in Syphilis, ibid., Dec. 24, 1910, p. 2211.

[10] Bachem: Berliner klin., October, 1910.

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The most important field for the use of the Ehrlich-Hata preparation is in the acute stages of syphilis, in which forms this remedy has proved of paramount value. Even if it does nothing more than to heal the primary lesion as rapidly as it does, and thereby prevent a further invasion of the system, and close an avenue of infection to others, it has accomplished a great deal. In the treatment of the chronic inveterate forms of syphilis its use has, as yet, not been sufficiently extensive to enable us to judge of its powers.

In the treatment of some of the diseases of the blood-forming organs, severe anemia, pernicious anemia, pseudoleukemia and lymphatic swellings of various origin, including glandular tuberculosis, its use has not been attended with success. In these maladies the inorganic preparations of arsenic act more rapidly and are more lastingly efficient than the organic preparations, a response similar to those noted after the administration of the organic and inorganic iron preparations in the treatment of the anemias and of chlorosis.

In these maladies and in cases of inveterate syphilis, which responded no longer to mercury, I have used successfully a solution of arsenic, which I described[6] in 1909. The solution consists of 1 gm. arsenic trioxid and 2.25 c.c. normal soda solution in 100 c.c. of distilled water, representing a 1 per cent. solution of sodium arsenite, a solution which is very slightly alkaline. Its subcutaneous injection does not cause more inconvenience than an injection of morphin; its intramuscular injection is painless. Lately I have used the intramuscular method (glutei) exclusively. I have given these injections hundreds of times and I have never seen even the slightest tendency to suppuration. The skin before injection is disinfected with an alcoholic solution of iodin and potassium iodid, and the site of injection is sealed with a mixture of this iodin solution with tincture of benzoin in the proportion of 1 to 4, a procedure which I have have also reported elsewhere.[7]

I shall briefly report two cases of syphilis in which the results of treatment with my arsenic solution were exceedingly satisfactory.

In a woman, aged 32, in whom the secondary lesions were not affected in the least by injection of mercury for a period of six months, injections of my solution of arsenic brought about a rapid disappearance of all syphilitic lesions after fourteen injections.[8]

A young woman, aged 24, in whom syphilitic manifestations kept appearing for a period of five years after the initial lesion, despite active mercurial treatment, was completely cured after twenty-four injections of my arsenic solution. Repeated Wassermann reactions in this case were entirely negative.

I wish to say a few words regarding the use of certain preparations of arsenic in the treatment of syphilis, which, because of convenience in administration, are extensively used in this country. The sodium salt of cacodylic acid, the sodium dimethylarsenate, for instance, is supposed to possess the advantage of being less poisonous than the other arsenic compounds, and has therefore been recommended especially by the French authors. Fraser of Glasgow has shown, however, that the non-toxicity of the cacodylates is due to the fact that they are not split up within the body, and pass out in the urine unchanged. Schmiedeberg asserts that only a very minute quantity of the cacodylic acid is set free in the body and that this is excreted by the lungs and causes a disgusting garlic odor to the breath. I mention these facts merely because these preparations have been recommended lately in The Journal by Murphy and Caffrey.[9] As regards enesol, a French preparation of arsenic that has been recently much in vogue, mainly because of the simplicity of its administration, Bachem[10] asserts that this patented arsenic and mercury mixture is unreliable. The tablets of sodium arsenate on the market for hypodermic use vary in their chemical reaction. Some I found alkaline, some acid; their age is unknown, and their dosage not reliable.

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[1] Harles, Christian Friedrich: De arsenici usu in medicina, Norimbergae apud Ioan Leonhard Schrag, 1811.

[2] Hoffmann, F.: Observat. phys. med. sel. iii, obs. xii.

[3] Ziegenbuchler, C.: Jour. d. prakt. Arznk. u. Wundarznk., 1809, v.

[4] Horn, H.: Neues Arch. f. med. Erfahr., Berlin, 1807, iv, 257.

[5] Renner: Arch. f. med. Erfahr., Berlin, 1812, i, 189.

[6] Herzfeld: The Journal A. M. A., Feb. 13, 1909, p. 557.

[7] Centralbl. d. Chir., 1909, No. 24.

[8] New York Med. Monatschr., March, 1909, p. 371.

224 West Twenty-Fourth Street.

WEAK MEDICAL SCHOOLS AS NURSERIES OF MEDICAL GENIUS

HENRY S. PRITCHETT
President of the Carnegie Foundation for the Advancement of Teaching
NEW YORK

The "Report on Medical Education in the United States and Canada," prepared under the direction of the Carnegie Foundation by Mr. Abraham Flexner, was issued in June and has received in one way or another the criticism of nearly all medical journals and medical associations. Those who have represented the Carnegie Foundation in this matter have sought to examine such criticisms and comments in a fair and reasonable spirit. They have felt pleased that the essential facts stated in the report have received no serious contradiction. They have endeavored, on the other hand, to profit in the further study of medical education by the comments made and the criticisms offered.

It is to be remembered that this report was not a mere criticism of existing conditions. It aimed to point out accurately and frankly the present status of medical education; but it did much more than this. It attempted a thorough-going study of the medical curriculum and it suggested certain broad lines on which the medical curriculum might fairly be expected to develop in the immediate future.

In seeking to serve both of these ends the report inevitably bore with some sharpness on a large proportion of existing medical schools and particularly on those schools which are commercial in their organization; and by "commercial" it was not meant that those who carry on such schools always derive from them much remuneration in the way of money. A commercial school, in the sense in which the term was used in this report, is a school conducted and managed in the interest of the men who control it; these men expect to receive from it some form of reward, either direct or indirect. The report made clear the fact that all such schools are to-day offering a form of preparation for medicine which falls far below the grade of efficiency which the people of every state in the Union have a right to demand. It was to be expected that the sharpest replies to the report should come from those institutions whose organization and plan of control run squarely against the principles it advocates. In particular, the commercial medical establishments have in one form or another replied to the facts laid bare in the report, and the deductions made from these facts, with arguments of varying sincerity and relevancy.

The argument which was most commonly put forth at first was the time-worn plea for the poor boy. The poor school, it was argued, existed for the poor boy. This argument, however, had been so thoroughly anticipated in the report itself and was so clearly not in favor of the poor boy, but in favor of the poor medical school, that it has been practically given up by those who first resorted to its use. In its stead there has been presented in one quarter or another an interesting and singular plea. It is true, say those who put forward this second argument, that a large proportion of the men admitted into the weak medical schools are utterly unprepared; it is true that many of those graduated from such schools ought never to be admitted to practice. Nevertheless, they assert, every now and again in this army of the unfit and the unprepared the school finds some one whom it develops into a great physician or a great investigator—a genius in medical science—and it is worth while, say the advocates of such schools, to keep alive even the weakest medical schools for the sake of the occasional great men whom they may breed.

The most interesting effort to maintain this position which has come under my eye, and one which has been reprinted in many quarters, appeared in an editorial article in *American Medicine* in October. The attention which has been given to it arises largely out of the fact that the author undertakes to rebuke Mr. Abraham Flexner in his criticism of the University of Louisville Medical School on the ground that his distinguished brother, Dr. Simon Flexner, is a graduate of that institution. The article carries with it something of the force of an *argumentum ad hominem.*

The tenor of the article may be judged from the following extract:

> What we have stated about Dr. Simon Flexner—facts that no one will gainsay—show conclusively, though perhaps inefficiently, his great usefulness both to his confrères in medicine and to humanity in general. Measured by his scientific stature, his contributions to medicine and his achievements, Dr. Simon Flexner in the light of his brother's dicta concerning medical colleges and their capacities for developing useful physicians, should be a graduate of some one of the large and best-equipped universities. But alas, fate ordained differently, and, according to the last edition of the *American Medical Directory,* Dr. Simon Flexner, the saver of babies' lives, director of one of the world's most famous and most important scientific institutions, a splendid scholar, one of the world's greatest scientists, a man who already has achieved wonders in his chosen field, and one who, if his life is spared, will probably be responsible for the conquest of several of humanity's most fatal maladies, suffered the frightful handicap of equipping himself for his life's work at the University of Louisville Medical Department. . . .
>
> We realize that there are other phases of the question and a single case like this offers no real opportunities for comparisons or conclusions. But we still think it carries a valuable lesson and proves our contention that after all the personal equation is the important factor. We need all the Simon Flexners we can get, and a school that can help one such man in each decade to embark on a career so useful to his fellows and all mankind, has justified its existence, Brother Abraham notwithstanding.

It would be difficult to misrepresent the facts in the case more completely than they have been misrepresented here. The scientific work which Dr. Simon Flexner has done has all been in relation to the subjects of pathology and bacteriology. In the year 1889, when the University of Louisville conferred on him the M.D. degree, the medical school of the University of Louisville had no laboratory for either pathology or bacteriology. Bacteriology was not even taught, and pathology, if taught at all, was taught only in a few lectures given by a practicing physician. The fact is that Dr. Simon Flexner got his real training by ten years of work at the Johns Hopkins University, and these the years which were the most fruitful in its history—the years when Professor Welch, starting with a few chosen pupils, brought up that group of men whose labors have gone so far to revolutionize American medical education in the brief period of two decades. It is difficult to believe that the writer of the paragraphs quoted did not know that Simon Flexner obtained his scientific training, not at the Louisville medical school, but at the Johns Hopkins University.

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[9] Murphy, John B.: The Arsenical Treatment of Syphilis, The Journal A. M. A., Sept. 24, 1910, p. 1113. Caffrey, A. J.: Sodium Cacodylate in Syphilis, ibid., Dec. 24, 1910, p. 2211.

[10] Bachem: Berliner klin., October, 1910.

While this disposes of the *argumentum ad hominem*, it does not affect the underlying question. The assertion that weak institutions deserve to exist on the ground of the few great men who have come up through them is one constantly made. The argument is, however, fallacious. It is not true that a vast horde of unprepared and ill-trained physicians must be turned out on a helpless public in order to obtain an occasional medical genius. The medical genius, when he comes, will in no way be shut out by the fact that the medical school is on decent standards. On the contrary, the very presence of a group of able, distinguished professors will stimulate such men to emulate their example and to live up to their ideals. It will always happen that a few of the best men will come up from the weaker schools; but the fact that strong men can survive a handicap is a strange reason for maintaining handicaps which injure even the strong man and wreck very many others. The medical genius of thirty years ago had no choice; he had to go to a poor school, for no other kind existed. To-day he has a good many alternatives. It is to his interest, genius though he be, that he be compelled to prepare adequately for his medical career and to get a good medical training on this sound basis. Such a policy, of priceless importance to the supposed medical genius, is absolutely indispensable to the man of mediocre ability, and to the public which is at his mercy. The exceptions are apparent rather than real. How much more effective would even the genius have been, if he had not been handicapped by defects of training! Facts showing that a man of high purpose and extraordinary ability may find his way, even under adverse and unfavorable conditions, in no wise furnish an argument, or even an excuse, for making the conditions of education weak and ineffective and for imposing on the public a body of ill-prepared practitioners.

In all the discussion concerning the poor boy and the medical genius it is well that the public and the medical profession should not be drawn away from the fundamental reasons advanced in this report to show that commercial schools are to-day hindering, not helping, the cause of medicine. These reasons, briefly restated, are the following:

1. Such schools are essentially proprietary institutions. They are schools managed by physicians who are to profit both directly and indirectly by the enterprise itself. It is true that some of these are nominally branches of universities, but this arrangement is fictitious. This situation has been proved by long experience to be one under which right educational conditions are impossible. A college or an engineering school run under similar conditions would also become frankly commercial.

2. Schools so run must depend on fees. This means inevitably the recruiting of a large student body from the unprepared and the unfit. In most schools of this character advertising is freely resorted to. To secure the requisite number of men, standards, both of preliminary education and of technical training, must necessarily be kept so low that the large body can be admitted. This results in putting the instruction itself on a low plane.

3. Adequate endowment for medical education can never be obtained so long as the exploitation of medical education for commercial purposes is wide-spread. It is a striking fact in educational conditions in America to-day that medical education has received very meager support. Particularly is this true when it is remembered that the service which the physician renders to the average man of means is the most direct and personal service which any member of society can offer. No other man has so good an opportunity to present the cause in which he is interested as the family physician. Under such conditions the poverty of endowment of American medical education is a standing reproach to American men of medicine. It is due, as everyone knows, to the fact that the average business man understands that medical education has been hitherto a perquisite of the medical practitioner, and so long as that relation remains no large endowment of medicine can be had. Only when the medical school is managed by a board of men not directly concerned in its profits, whether they be in the form of fees or of increased practice, will it stand in the eyes of givers in the same light as other schools.

4. Finally, the continuance of such schools under their present conditions is a direct neglect of the rights of the students themselves and of the public, and this for the reason that so long as the conditions which have been described hold, these schools furnish a sort of education far inferior to that which they ought to give and far inferior as well to that which the public has a right to expect of those who are to practice on it. Such schools are practically in the situation which a commercial house would occupy if it sold its patrons old and antiquated machinery, presuming on their ignorance.

It is interesting to see with what success some medical sects, for example, the osteopaths, have learned from the history of medical education to ignore the claims of the public in their own interest. A brief and meager education is justified on the ground that the "science" is not as yet so comprehensive as "regular medicine" in its scope; but the osteopath, once graduated, is very vague as to just what he should or should not attempt to relieve by osteopathic methods; in consequence, he will at least try to cure everything! The dean of an osteopathic school in California admitted that his students are taught to treat even such affections as gonorrhea and syphilis by "osteopathic" methods. In a number of states the osteopaths are thus conducting schools which, while nominally osteopathic establishments, are really, by the aid of feeble departments of anatomy, pathology, and physiology, turned into the weakest of ordinary medical schools. On the plea that they are training a physician of limited range, they get from the state a concession enabling them to give the degree of D.O. in three years, instead of four; the graduates, though so poorly trained that under any other name they would not be admitted to practice at all, at once spread themselves over the entire field of illness, disease, and accident. But in carrying out this program, the osteopaths have done nothing other than to imitate the example of the weak medical school which goes on furnishing to those who attend it a form of education enormously behind the requirements of our day and our time, while giving to the public the impression that it is offering facilities of an adequate and satisfactory sort.

One cannot study even the weakest and most unnecessary of these schools without realizing that not infrequently an admirable quality of devotion is to be found in them. The difficulty is that such devotion is mingled with a very large leaven of commercial interest; and in many cases the devotion is offered in a cause which cannot be approved. The betterment of medical education to a stage commensurate with the present status of medical knowledge is a task which will require the unselfish service, first of all, of the members of the medical profession. It is difficult to see how that service can be rendered until the members of this profession themselves are willing to acknowledge that, whatever may have been true of the past, the time has now come when the commercial medical school should disappear and in its place there should stand a school which, however simple and humble it may be, shall be conducted in accordance with an ideal which divorces the teaching of the doctor or surgeon from the question of securing practice and which unites both science and practice for the benefit of those students who are competent to receive the instruction.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

ANTIDYSENTERIC SERUM.—Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Antidysenteric Serum.—The blood serum of horses immunized against the Shiga bacillus. Recommended in dysentery and summer diarrhea where the bacillus of Shiga is an etiologic factor. Marketed in bottles containing respectively 10 and 20 Cc.

ANTIPNEUMOCOCCUS SERUM.—Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Antipneumococcus Serum, stated to be prepared from highly virulent original cultures derived from human pneumococcus affections. Marketed in bottles containing 10 and 20 Cc., and also in powder form in vials containing 1 Gm. each. The dry serum is intended principally for the local treatment of ulcus serpens.

ARHOVIN.—Arhovin is stated to be a solution of diphenylamine and thymolbenzoate in ethyl benzoate, the three constituents being in molecular proportions.

Arhovin is a yellowish liquid of aromatic odor and feebly cool-burning taste, on account of which it is supplied, for oral administration, in capsule form. It is almost insoluble in water, but readily soluble in alcohol, ether, chloroform and fatty oils.

Actions and Uses.—Arhovin is rapidly absorbed and excreted, being present in the urine fifteen minutes after ingestion. It has an antiseptic action on the urine and, it is claimed, it renders the mucosa of the genito-urinary tract unfavorable for germ growth. It is said to clear up cloudy urine and make it normally acid.

Arhovin is said to be useful in the treatment of urethritis, prostatitis, cystitis, and pyelitis, as an adjunct to local treatment. It is said to be useful for external application in place of silver salts.

Dosage.—By mouth, 0.25 (4 minims), in capsule, 1 or 2 capsules three to six times daily. For urethral injections: 3 to 5 per cent. solutions in olive oil or liquid petrolatum; 15 c.c. two to four times daily.

Manufactured by Dr. Arthur Horowitz, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 58,756. Not patented.

Arhovin Capsules.—Each capsule is said to contain 0.25 Gm. (4 minims) of arhovin.

MAGNESIUM PEROXIDE.—Magnesium Peroxidatum.—Magnesium superoxide. Magnesium dioxide.—Magnesium peroxide is a mixture consisting essentially of magnesium peroxide and magnesium oxide with water of hydration, containing not less than 15 per cent. of magnesium peroxide (MgO_2).

Magnesium peroxide is a white powder. It is practically insoluble in water, but by such contact is gradually decomposed into hydrogen peroxide and magnesium hydroxide, the hydrogen peroxide being further decomposed by the alkaline magnesium hydroxide, with liberation of oxygen. It is decomposed by dilute acids with formation of a solution containing hydrogen peroxide.

If about 1 Gm. of magnesium peroxide be dissolved in a mixture of 10 Cc. dilute sulphuric acid and 90 Cc. water a solution results, 1 Cc. of which shaken with 5 Cc. ether and 1 drop of a 1/100 chromic acid solution should produce a blue color in the ether.

If about 0.2 Gm. magnesium peroxide be boiled with 10 Cc. water, then cooled and filtered, the filtrate should be but faintly alkaline; and 5 Cc. of this filtrate on evaporation should leave only a trace of residue.

If about 1 Gm. magnesium peroxide be dissolved in 25 Cc. dilute nitric acid and 2 Cc. tenth-normal silver nitrate added to the solution and the resulting precipitate filtered off, the further addition of a few drops of silver nitrate solution to the filtrate should not produce a turbidity.

If about 1 Gm. magnesium peroxide be exposed to the full heat of a Bunsen flame for five minutes, then dissolved in 25 Cc. dilute hydrochloric acid and the solution made up to 100 Cc., a solution will result which will conform to the following tests:

10 Cc. of the solution saturated with hydrogen sulphid should yield no precipitate, nor become colored.

10 Cc. of the solution, to which 10 Cc. ammonium chlorid solution and ammonium hydroxid in excess have been added, should yield not more than a turbidity on the addition of ammonium carbonate.

10 Cc. of the solution should not immediately give a blue color on the addition of a drop of potassium ferrocyanid solution.

If 0.2 to 0.3 Gm. magnesium peroxide, weighed into a flask, be dissolved with 20 Cc. dilute sulphuric acid, the solution diluted with 50 Cc. water, the titration of this solution with tenth-normal potassium permanganate should indicate the presence of not less than 15 per cent. magnesium peroxide, MgO_2.

Actions and Uses.—Magnesium peroxide, due to its property of yielding oxygen is said to be of value as a gastric and intestinal antiseptic. It has been recommended in chlorosis, anemia, gout and rheumatism. It is also used as a constituent of dentifrices.

Dosage.—0.25 to 0.50 gm. (4 to 7 grains) two or three times daily.

Therapeutics

DRUGS ACTING ON THE CIRCULATION

STROPHANTHUS

Description.—*Strophanthus hispidus* (genitive strophanthi, Latin masculine noun, second declension) derives its name from the Greek στροφή a turn or a twist, and ἄνθος a flower, from the twisted, thread-like segments of the corolla, and *hispidus*, Latin meaning hairy, the seeds being covered with hairs. Strophanthus is a woody climber in the forests of tropical Asia and Africa. The United States Pharmacopeia recognizes as official the seeds of *Strophanthus hispidus* De Candolle.

The natives of Africa, especially along the Zanzibar coast, express from the seeds of this plant an oily juice which they smear on their arrow-heads. This poison is variously known as the Kombé poison, or the Inée or Onaye poison, or the Wanika poison, or the Pahouins poison, depending on the region of Africa in which this poison is used.

The seeds of strophanthus contain from 1 to 4 per cent. of a glucosid extracted with alcohol and hydrochloric acid, and an acid called by Culbreth kombic acid. This glucosid is probably similar in action to the ouabain, the active principle obtained from the seeds of *Strophanthus glaber*.

The Kombé arrow-poison, named strophanthus by Sir John Kirk, was first examined in 1862 by Professor Sharpey, but the action of strophanthus was first presented to the profession by Professor T. R. Fraser, of Edinburgh, in 1870. Professor Fraser obtained from the seeds a bitter, white, imperfectly crystallin principle, *strophanthin*, which is a glucosid changed by sulphuric acid into glucose and crystallin strophanthidin. Strophanthin is more poisonous than strychnin, atropin and even hydrocyanic acid.

Strophanthus has not been used so much as its physiologic action authorizes because the best liquid preparation of it, the tincture, was supposed to vary so greatly in strength and efficiency as to render the use of the drug in this form uncertain. The U. S. P. tincture, if made by a reliable firm, has been shown by repeated examinations to be of good and efficient strength, although like all tinctures of crude drugs, the strength varies, though not so widely as does the tincture of digitalis. The mistake is often made of adding tincture of strophanthus to some watery solution. Watery menstrua have been shown to diminish the efficiency and to injure the activity of tincture of strophanthus. Therefore, the tincture of strophanthus should be ordered alone or, if deemed advisable, in combination with some other tincture.

Local Action.—Strophanthus has no action on the unbroken skin. If the volatile oil contained in the seeds is entirely removed before the preparations are made, strophanthus has but slight irritant action on the mucous membranes, but large doses of most preparations may cause nausea and vomiting and perhaps diarrhea. In small doses the slight irritation which is caused will act as a stomachic or bitter tonic.

Systemic Action.—Although strophanthus has been estimated as sixty times as toxic as digitalis, leaving out for a moment this toxic power, it may be epigrammatically described *from the therapeutic standpoint* as acting "just like digitalis, only less so." In other words, it is less slow of absorption and therefore more rapid to act; it is less likely to cause vomiting; it slows the heart less, increases its contractions less, and causes less contraction of the blood-vessels, especially those of the splanch[illegible] area and the coronaries; and it is less likely to [illegible]e cumulative action. The active constituents of this [illegible]g are rapidly absorbed, and also rapidly excreted, hence if the doses are not too frequently repeated, as just stated, there is no danger of cumulative effect. Its action may be noticed in half an hour after it is administered and the effect will last for several hours.

The primary action of this drug, like digitalis, is on the *circulatory system*. The heart muscle is as strongly stimulated as by digitalis. The heart is slowed and the diastole prolonged probably by the action on the peripheral endings of the pneumogastric nerves in the heart.

It has been generally believed that strophanthus does not cause much arterial contraction and therefore does not much raise the systemic blood-pressure. Pharmacologic experiments, however, seem to show that it does raise the blood-pressure by causing arterial contraction. Clinically, however, in a dose sufficient to act on the heart it does not raise the blood-pressure as does the same efficient doses of digitalis. Even when the blood-pressure is raised by it, it has seemed not to raise the pulmonary pressure. Hence strophanthus can be used in arteriosclerosis when digitalis is contra-indicated.

In ordinary dosage, strophanthus has but slight, if any, effect on the *nervous system*, but if any effect is produced on the brain and medulla it seems to be that of a slight sedative. Whether such quieting effect is due to an improved circulation or to a possible sedative effect on the thyroid gland, which if excited is the cause of cerebral excitation and nervousness, cannot be decided. From this sedative effect on the higher nerve centers, which under certain excited conditions is marked, nervous muscular irritability is diminished and strophanthus thus becomes a mild antipyretic.

Locally on the eye strophanthus in doses of 1/1000 grain will produce anesthesia of the conjunctiva, contraction of the pupil, and increased intra-ocular tension, but it later causes severe irritation.

In therapeutic doses, strophanthus has no action on the *muscular system*, but in toxic doses is a direct paralyzant of the voluntary muscles acting either on the endings of the motor nerves, or on the muscle itself.

The *glands* of the body are not affected except as by the general improved circulation, except that profuse perspiration may be diminished, and there is strong clinical proof that in hypersecretion of the thyroid as occurs in Graves' disease the secretion of this gland is diminished.

It is a moot question as to whether this drug has *diuretic* properties other than that caused by the improved circulation, but it does cause diuresis in some cases in which digitalis has seemed to fail. It does not cause contraction of the renal blood-vessels, but very probably is slightly stimulant to the kidney secreting cells. This drug is rapidly eliminated and there is no danger of cumulative action if the dose is not too rapidly repeated.

Action of a Therapeutic Dose, or the Primary Physiologic Action.—Good therapeutic action of strophanthus is shown by a slowed pulse with slightly increased arterial tension, stronger and regular action of the heart, diminished nervous irritability, and an increased amount of urine. The *toxic action* of strophanthus is shown by disturbed circulation, as occurs with a toxic dose of digitalis, and great muscular weakness.

The treatment of strophanthus poisoning is similar to that of digitalis poisoning.

Therapy.—The indications for preferring and using strophanthus instead of digitalis are:

First, when there is an indication for a cardiac tonic and digitalis produces nausea, vomiting, and too great increase of blood-pressure.

Second, when a cardiac tonic is indicated and the blood-pressure is already high.

Third, when a rapidly acting cardiac tonic is indicated.

Fourth, when there is more nervous irritability and weakening of the heart than actual muscular debility or incompetency.

Fifth, children are very susceptible to the action of digitalis, and hence strophanthus is often a better drug to use when a cardiac tonic is indicated.

Strophanthus can be used for any condition in which digitalis is indicated. It often acts well as a diuretic and in dropsical conditions not due entirely to cardiac incompetency strophanthus acts better than digitalis.

It is of special advantage in chronic nephritis when digitalis is contra-indicated. In the rapid heart and cerebral excitation of Graves' thyroid disease strophanthus is often of marked benefit.

Contra-Indications.—In the conditions in which digitalis is contra-indicated strophanthus should be used with care, but not being a vasoconstrictor in ordinary doses, and not contracting the blood-vessels of the kidneys, and not having cumulative action gives this drug a wider range of use within the realms of conservative therapy, than has the more strongly acting drug, digitalis.

Official Preparations.—Strophanthus is not used as such. *Tinctura Strophanthi:* This is a 10 per cent. tincture; dose 10 drops.

STROPHANTHIN

So much has recently been written of the therapeutic value of strophanthin when injected hypodermatically or intravenously, and, *per contra*, the use of tincture of strophanthus by the mouth has been reported so many times as unsatisfactory, that this active principle is worthy of a brief separate discussion.

The *Strophanthinum* of the Pharmacopeia is a glucosid or mixture of glucosids. It is a white or faintly yellowish crystallin powder, very bitter, and very soluble in water and dilute alcohol. A purer strophanthin may be obtained, but perhaps its activity may not be greater than the mixture of glucosids termed strophanthin of the Pharmacopeia. Ouabain and crystallized strophanthin are identical products and have the same toxic effect, and this substance is perhaps twice as active as is the common strophanthin of the Pharmacopeia. Crystallized strophanthin is a very active poison, claimed to be sixty times as toxic as digitoxin.

By the mouth strophanthin may produce serious poisoning. Tincture of strophanthus probably so soon causes nausea and vomiting that it would be difficult to produce serious poisoning with it; this is, perhaps, not true of strophanthin. On the other hand, its therapeutic effect has been found to be much less when given by the stomach than when given hypodermatically.

The best strophanthin on the market is obtained by a process of extraction, devised by Thoms, from strophanthus gratus, and has a definite melting point and solubility, as determined by Hatcher and Bailey.

Harold C. Bailey (*Journal of Pharmacology and Experimental Therapeutics,* October, 1909) advises that the daily dose of the crystalline strophanthin should not exceed 0.0005 gram, (1/120 of a grain) and that this dose should not be repeated in 24 hours. If crystalline strophanthin is given intramuscularly, it should be dissolved in a 1 to 4,000 saline solution, or for intravenous use in a 1 to 6,000 or 8,000.

The hypodermatic dose is very much less than that by the mouth, and in fact tablets for hypodermic administration are offered, each containing 1/500 of a grain, the dose ranging from 1/500 to 1/100 of a grain. Hatcher (The Journal, March 26, 1910) has several times declared that crystalline strophanthin is twice as toxic as the amorphous strophanthin of the Pharmacopeia.

Strophanthin seems to be especially valuable as a cardiac stimulant when there is weakened heart muscle in chronic myocarditis or in chronic valvular disease, especially if there is coincident nephritis. Hypodermatically, however, strophanthin should probably be reserved for emergencies, although a number of French clinicians give 0.001 gram (1/60 of a grain) of strophanthin intramuscularly or even intravenously, once in 24 hours, for several days, if necessary. On the other hand, once or twice, at 24-hour intervals, is generally sufficient. Administered in this manner, this drug seems quickly to increase the strength of the cardiac contractions, to slow the pulse, and often in cardiac disturbances causes diuresis. However, if the kidneys are damaged, strophanthin may not act as a diuretic unless some other drug is added to the treatment, such as caffein. Although strophanthin is recommended to be used intravenously, it would seem hardly justifiable, except in emergencies. On the other hand, when the heart is failing from cardiac disease or dilatation, and digitalis is contra-indicated or useless, the patient should not be allowed to die without a trial of strophanthin.

Strophanthin has proved successful in relieving almost hopeless pulmonary edema from failure of the right side of the heart.

Symptomatology of Anterior Poliomyelitis

The Board of Health of New York City, in line with many other health boards, has made infantile paralysis a reportable disease. A special form of card has been prepared for recording the cases, and the inspectors have been instructed to pay special attention to securing exact information as to periods of incubation and infectivity. Negative findings may be as important as positive ones. A bulletin has been issued concerning the disease, which gives a clear statement of the symptoms and signs in the light of the late investigations, and also emphasizes the value of the findings in the cerebrospinal fluid. In view of the probability that in the coming warm season many cases of infantile paralysis will occur, this portion of the bulletin may be worth republishing. It says:

"Epidemics of acute poliomyelitis have been noted with increasing frequency in this and other countries. Its infectious nature has long been suspected, and in 1909 was rendered almost certain by the production of the disease in monkeys by inoculation of the emulsified spinal cord of a child that had died of the disease. Studies made at the Rockefeller Institute have made this proof still more conclusive. The virus is contained not only in the spinal cord, but also in other parts of the body, most particularly the nasopharyngeal mucous membrane. This is significant in its relation to isolation and prophylaxis, and suggests a likely source of dissemination.

"Abortive forms without paralysis have been noted and are recognized with difficulty, except during an epidemic. Examination of the cerebrospinal fluid obtained by lumbar puncture is of great assistance in confirming the diagnosis. the distinctive features of the fluid are: clear fluid, absence of bacteria, increased cellular elements (chiefly lymphocytes), moderately increased tension, and definite increase of protein content as shown by Noguchi's test. In a recent case a positive diagnosis was made by lumbar puncture, twenty-four hours before any sign of paralysis appeared. The meningeal and cerebral types of the disease may thus be differentiated from epidemic cerebrospinal meningitis.

"The disease is characterized by a sudden onset with fever, followed, generally, within from twelve hours to three or four days, by general or localized paralysis, almost always of a flaccid type, with reaction of degeneration and early atrophy in the muscles permanently affected. Paralysis is most common in one or both legs, but may occur in any part of the body. Vomiting and convulsions occur frequently at the onset but are not constant symptoms. More significant are restlessness and insomnia which occur early in most cases. Pain and tenderness, usually referred to the joints and muscles, were common in the 1907 epidemic in New York City.

"The period of incubation varies widely; between two and thirty days. The average appears to be from seven to ten days. The so-called abortive cases may act as carriers, and there are also many authentic cases in which the disease was in all probability carried by a third person.

"The duration of the period of infectivity is unknown, which leaves the question of isolation and quarantine unsettled."

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 25, 1911

THE EFFECT OF ROENTGEN RAYS ON THE THYMUS

That Roentgen rays produce distinct changes in various tissues of the animal body is well known, but concerning the exact mechanism by which these changes are caused we know practically nothing. Marked changes may be produced in the blood and blood-forming organs by these rays under proper conditions and, as first shown by Heineke, the lymphocytes are especially sensitive to their action, disintegration taking place very rapidly. It is on this account that the rays are used in the treatment of leukemia. In animals it has been found that the lymphoid tissues themselves are markedly affected. Recently the effect of roentgenization on the thymus has been studied experimentally by Rudberg,[1] and as the resulting cellular changes have been followed closely (in rabbits) a brief account of them is given.

Under the influence of the rays, the lymphocytes as well as the cells of the reticulum of the thymus rapidly undergo a characteristic destructive process which sets in with disintegration of the lymphocytes within three and one-half hours after beginning the exposure. The products of disintegration, as a rule, do not leave the thymus, but are taken up by the cells of the reticulum and subjected to intracellular digestion, and in from twelve to forty-eight hours all lymphocytes and lymphocytic remnants may have disappeared. The reticulum cells now become closely approximated and the tissues assume an epithelial aspect. Degeneration of the reticulum cells takes place somewhat later, often after all lymphocytes have been destroyed, and continues after the regeneration of lymphocytes has begun. The reticulum cells are changed into large transparent forms with pronounced foamy structure. Large parts of the thymus may become sequestrated and, through softening of the dead tissue, cystic cavities may arise. If the destruction has been moderate only, the regeneration which follows is accomplished by the reticulum cells as well as the lymphocytes still present. But if prolonged exposures are made, then all the lymphocytes may be destroyed and now the new lymphocytes appear to come by importation through the lymph-vessels, passing into the perivascular connective tissue to the center of the lobules and spreading themselves out towards the periphery. Later, these cells multiply and after a time the division of the parenchyma into cortex and medulla becomes apparent again.

Marked changes in the thymus occur also when it is protected against direct action of the rays by means of lead plates. In this case there is not only some disintegration of lymphocytes, but also an emigration. The latter takes place in the usual method characteristic of accidental thymic involution and inanition, the lymphocytes wandering into the medulla and entering the lymph-vessels there. The emigration begins early and is most marked from the second to the fifth day; it may be most marked before the animal begins to show signs of diminished vitality and loss of body weight and, consequently, has no connection with the thymic involution which may result from disturbance of the general condition by roentgenization. It seems that the cells emigrate in order to replace cells that have been destroyed elsewhere in the body and in the blood, and in consequence the number of lymphocytes in the blood increases. The disintegration of the thymic lymphocytes in animals whose thymus is protected takes place during the first day after irradiation and is similar to that which follows direct irradiation but is less extensive. The cause is ascribed in part to a secondary irradiation from the neighboring parts of the body, which have been exposed to the rays, and no doubt in some part to the action of lymphocytolytic substances which appear in the blood and tissue fluids. This secondary irradiation is easily shown by placing a photographic film under the lead plate. That lymphocytolytic substances are produced was shown by Rudberg by injection of the blood and serum of irradiated animals into the peritoneal cavity of healthy animals, in which there resulted a distinct disintegration of lymphocytes in the follicles of the appendix and mesenteric lymph-nodes.

At present we must be satisfied with knowing that Roentgen rays cause the remarkable changes that have been described; how they cause them is a mystery.

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[1] Om Thymusinvolutionen Efter Röntgenbestrålning Jämte Nägre Iakttagelser Ofver Leukolysen I Ofright Hos Röntgenbestrålde Djur. Af Hans Rudberg. Upsala, 1909.

THE CARD SYSTEM OF RATING DAIRIES

In a previous issue,[1] the question of dairy inspection was discussed in a general way. It is evident that in order to obtain from dairy inspection results of value in the way of improvement of the milk-supply, a uniform system of inspection must be practiced and careful records kept. This would permit a comparison of the results accomplished and would encourage the improvement of dairies by the dairymen. The most reliable index of the quality of the milk-supply is the bacterial content. Improvement in dairy equipment and methods should be reflected in the bacterial findings.

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[1] The Journal A. M. A., Jan. 14, 1911, p. 124

In order to secure an efficient system of records and, to facilitate the comparison of results a number of scorecards have been devised. The one most commonly used has been worked out by the Department of Agriculture and covers two features—equipment and methods. Under equipment are considered the health of cows, provisions for their comfort, food and its quality, the construction of stables, bottling rooms, sterilizers and other utensils. Forty points are allowed in the rating for perfect equipment. Under methods are comprised cleanliness of the cows, of the stables, ventilation of the buildings, condition of the utensils, of the milkers, of the milk room, and the methods of handling the milk and its prompt and efficient cooling. For perfect methods, 60 points are allowed.

This card has also on its reverse side a place for recording the number of cows, the number of gallons of milk produced daily and the market to which the milk is sent, and a place for recording the quantity of milk procured from other dairies.

Another system of inspection, used in Michigan, comprises five features, allowing 100 points for each. They cover the health of the herd and its protection, cleanliness, construction and care of utensils, health of employees and manner of milking, and the subsequent handling of the milk. A perfect score would be 500 points. In addition, the general sanitary conditions are noted as good, medium, poor, etc. There is also a provision for recording the quality of milk under the heads of percentage of butter fat, lactometer tests, total solids, and solids not fats.

The card devised by the government has aided much in forming an idea as to correct dairy conditions, but it is far from perfect. The chief criticism is that the details under each of the heads mentioned above are not sufficiently worked out. For instance, the matter of tuberculin tests of the cows, the manner of bedding, the construction of the stable with reference to light, cubic air space per cow, screens in windows, etc., might be given in greater detail, together with more minute details with reference to the condition and manner of using, cleansing and keeping the various utensils. Similarly the cleanliness of the cows, the methods of handling the manure and food and the condition of the milkers are not sufficiently particularized.

It will be seen that much of the value of such records will depend on the knowledge and judgment of the inspector and the thoroughness with which he does his work. For this reason it is highly important that men thoroughly trained should be employed for this purpose. An excellent plan would be to demand from the applicants for such positions that they have certificates from a dairy school in good standing, so that they may have a proper appreciation of the points of clean milk production that would tend most to a low bacterial count. For there must be a definite relation between the score of the dairy and the number of bacteria present in the milk. The higher the score the smaller the number of bacteria, and *vice versa.*

The foregoing has reference, of course, only to the production of milk in the dairies. The control of conditions in milk depots and stores and throughout the distributing system must be carried on in a similar manner.

The advantages to be obtained by a thorough system of inspection and record-keeping would be, first, the accumulation of reliable data concerning the essentials of clean milk production and handling; second, the imparting of instruction to all those engaged in milk production and the milk traffic; third, the establishment of a statistical basis for appropriate legislation. The card-rating system, if developed in sufficient detail, and accompanied by efficient inspection, would be an effective method of securing these results.

THE FUNCTION OF THE CORPUS LUTEUM

Whenever a pathologist presents a summary of the present status of the problem of cancer etiology, he is more than likely to conclude with a statement to the effect that the solution is up to the biologist. This conclusion rests on the conviction that the growth of cancer cells depends on the same fundamental factors as the growth of normal cells, which have in some way become perverted. The pathologist reasons that when the biologist has shown why normal cells proliferate, and especially why they stop proliferating when certain well-defined limits of growth have been reached, it will be a simple matter to find why sometimes the growth processes are of excessive energy or why they fail to stop at the proper time, and by their lawlessness constitute malignant growths. Cellular biology, therefore, seems to hold the key to the genesis of tumors, and cooperation between its disciples and the pathologists seems to offer the best hope of success. As an illustration of this principle we may call attention to the important studies on the growth of tumor cells under the microscope which have been reported in recent numbers[1] of THE JOURNAL, and which are the outcome of the observations on cell growth made by a pure biologist, Professor Harrison of Yale.

Equally interesting advances along the line of cell growth, which have a presumptive bearing on tumor genesis, have been recently made by a reverse process, the incursion of a pathologist into the fields of biology. Leo Loeb, through whose studies America has the credit of the first extended series of successful tumor transplantations. has during the past few years published a number of observations on the function of the corpus luteum which have much significance for both biology and pathology. It may be recalled that the corpus luteum has a histologic structure strikingly similar to that of the adrenal cortex, a fact which makes it probable, if not certain, that this transitory cell mass must possess some function in the way of internal secretion. In consequence of this fact and of sundry experiments, various hypotheses have been evolved, but without the final establishment of the function of the corpus luteum. Through an extensive series of experiments Loeb[2] has now positively determined that this organ, for such it may properly be called, does produce an internal secretion or secretions which exercise an important influence on the sexual cycle. One function of this secretion seems to be that of prolonging the length of time between two successive ovulations, so that during pregnancy the useless discharge of mature ova from the ovary is prevented, whereas if impregnation does not occur the early atrophy of the corpus luteum of menstruation or ovulation permits of more rapid maturation of ova, thus hastening the time of the next possible impregnation.

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[1] Among these may be mentioned: Carrel, A., and Burrows, M. T.: Cultivation of Adult Tissues and Organs Outside of the Body, THE JOURNAL A. M. A., Oct. 15, 1910, p. 1378; Cultivation of Sarcoma Outside of the Body, ibid, Oct. 29, 1910, p. 1551; Nov. 12, 1910, p. 1732. Weil, R.: Biochemical Investigation of Malignant Tumors and Its Diagnostic Applications, ibid, Oct. 29, 1910, p. 1532. See also report of meeting of American Association for Cancer Research, THE JOURNAL A. M. A., July 23, 1910, pp. 340-1; Culture of Cancer Cells *in Vitro*, a letter from G. Volpino, ibid, Jan. 14, 1911, p. 139. Lambert, R. A., and Hanes, F. M.: Growth *in Vitro* of Transplantable Sarcomas of Rats and Mice, ibid, Jan. 7, 1911, and Feb. 25, 1911, p. 587.

Another function, and one that seems especially related to cell growth and tumor formation, is that of sensitizing the uterine mucosa so that it reacts to any sort of mechanical stimulus by forming a maternal placenta. A few days after ovulation the uterine mucosa of the guinea-pig can be made to take on a most exuberant growth, leading to the formation of much placental tissue, by merely introducing into the uterine cavity an inert foreign body, such as paraffin or a bit of glass rod, or by injuring the mucous membrane by incising it. Nervous influences having been excluded, and the essential importance of the corpus luteum in producing this condition having been established, the conclusion is reached that the corpus luteum secretes a hormone with the function of sensitizing the cells of the uterine mucosa so that they react to indifferent mechanical stimuli by rapid proliferation. Normally, this stimulus is furnished by the impregnated ovum, but as any foreign body will have the same effect as the ovum in this respect, the purely mechanical nature of the stimulus is evident.

The close relation of these observations to tumor pathology is at once apparent when we recall the numerous instances in which some mechanical stimulus, whether a blow or chronic irritation, has led to the production of a malignant tumor. Furthermore, experimental studies on tumors in animals have indicated that the power of the malignant tissues to proliferate is influenced by chemical substances of unknown nature, which in some cases seem to stimulate and in others appear to retard cancer growth. The strange behavior of those remarkable placental tumors, the deciduomata, also recurs to one in contemplating the great growths of placental tissue which Loeb has caused to develop in the uterine mucosa as a reaction to mechanical stimuli. To attempt any speculation as to the exact meaning of these experiments for human pathology at this time would, however, be premature.

It may be of interest to the clinician to learn that it is not possible to produce the effects characteristic of the corpus luteum secretion by injecting extracts of the fresh corpora lutea of guinea-pigs or of swine into castrated guinea-pigs.[3] This fact is of importance in view of the proposed and attempted therapeutic use of the same material in practice, although it must be granted that negative experimental results do not absolutely exclude positive clinical results, however improbable the latter may thus be rendered. There seem to be few internal secretions whose normal delivery to the tissues in minute quantities as needed can be successfully replaced by the therapeutic introduction of larger quantities at longer intervals.

Current Comment

EFFORT FOR HIGHER PRELIMINARY STANDARDS

An energetic effort is being made in at least two states to secure legislation providing for a higher standard of education preliminary to the study of medicine. At a meeting of the Ohio State Medical Teachers' Association held in December, a resolution was adopted requesting the Ohio State Medical Board to join the association in petitioning the legislature to enact a law fixing the minimum educational requirement preliminary to the study of medicine at two years of collegiate work, including chemistry, physics, biology and a modern language. Legislation providing for a similar standard is also being asked for in Utah. That standard has been adopted in Minnesota, North Dakota, Colorado, Iowa and Indiana, and a requirement of one year's work in physics, chemistry and biology in addition to a standard four-year high-school education has been adopted in South Dakota, Kansas and Connecticut. It is clear that such requirements on the part of state boards are not unreasonable; twenty-eight colleges are now enforcing the two-year requirement and thirteen others are requiring one year of collegiate work or its equivalent for admission. Of the latter group several have expressed their intention eventually of requiring two years of collegiate work. Should the state boards more generally adopt the increased requirement, it might cause a further reduction in the number of medical colleges, but with our present oversupply that reduction would not be serious. Of much more importance, however, are the facts that this country would have a larger number of medical colleges adhering to reasonably high standards for admission; that a larger percentage of medical students, because of the higher entrance requirements, would be enabled better to grasp the fundamentals of a modern medical training, and that the public would be benefited by having a larger number of educated and well-trained physicians.

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[2] Loeb, L.: Experimental Production of the Maternal Placenta and Function of the Corpus Luteum, THE JOURNAL A. M. A., Oct. 30, 1909, p. 1471; Med. Rec., June 25, 1910; abstr. in THE JOURNAL, July 9, 1910, p. 166. See also Fraeukel, L.: Arch. f. Gynäk., 1910, xci, No. 3; abstr. in THE JOURNAL A. M. A., Jan. 7, 1911, p. 79.

[3] Morley, W. H.: Cases in Which the Extract of Corpus Luteum Has Been Used, Jour. Mich. State Med. Soc., November, 1909; abstr. in THE JOURNAL A. M. A., Dec. 11, 1909, p. 2035. Maits, C. B.: Therapeutic Value of Extract of Human Corpus Luteum, Univ. Penn. Med. Bull., July-August, 1910; abstr. in THE JOURNAL, Sept. 10, 1910, p. 966.

A JUDICIAL VIEW OF DRUG ADULTERATION

A New York firm that shipped adulterated drugs into another state was prosecuted under the federal Food and Drugs Act. As the government's case against the firm was clear and unmistakable, a plea of guilty was entered. Judge Holt, of the U. S. Circuit Court for the Southern District of New York, before whom the case was tried, suspended sentence over a term of two years. In so doing Judge Holt criticized the methods employed by the government officials in securing the evidence in the case. It appears that the Department of Agriculture had a San Francisco house order from the New York firm a number of different drugs. They were analyzed and the prosecution was based on the chemists' findings. Judge Holt in his criticism said:

> "I do not propose to aid in this sort of perversion of the law and abuse of its processes. This method of getting evidence in cases of this kind is resorted to by inspectors to show their efficiency through the medium of sham orders under cover of interstate commerce. These things were bought for the purpose of getting up a criminal prosecution instead of legitimate business purposes. This is following out the idea of modern federal legislation and taking the proper relief power from the states."

To the man in the street the action of the government employees in securing evidence against the shippers of adulterated drugs seems entirely praiseworthy. From the standpoint of public health there is no doubt that the adulteration of drugs and foods should be stopped, and at present the federal authorities seem to be about the only ones—with a few notable exceptions—that are competent to check it. Judge Holt apparently thinks that, because the adulterated drugs were not bought for "business purposes" the government authorities were overzealous in proving such adulteration. Evidently, the judge would not approve of the various city weight and measure inspectors because, in pursuit of their duties, they purchase food and other products not for "business purposes," but to determine whether the public is being "short-weighted." Anyone conversant with human nature knows that the strongest incentive to commercial honesty is a well-founded belief that dishonesty is constantly being exposed by the officials whose duty it is to safeguard the public's health and purse. Judge Holt also echoes that oft-heard plaint that, in prosecuting "patent-medicine" fakers, drug adulterators and food sophisticators, the federal government is encroaching on the powers of the state! For years before the Food and Drugs Act went into effect the various states had laws which were supposed to protect the public against adulteration in drugs and foods, but the enforcement of these state laws was—and in many cases still is—the veriest of farces. Zealousness on the part of officials who were supposed to enforce the state pure food and drugs laws usually resulted disastrously to such officers, with the result that many state food and drug inspectors were satisfied to become mere salaried figure-heads. If the same opposition is going to be brought against federal officers who have the public health, rather than the "business interests" at heart, we may look for the government officials to develop the same apathy that has paralyzed many of the state food and drugs acts and made state enforcements of law a byword and a reproach. If there is anything the "business interests" like better than a considerate congressman, it is a solicitous judge.

ATHLETICS IN THE NAVAL ACADEMY

In his recent report, the Surgeon-General of the Navy calls attention to a point which may be of some importance: that is, the danger of too strenuous athletic training for naval officers. It has long been observed that highly developed muscles do not always accompany a high resistance to infection, but often weaken resistance by producing an imbalance between the different organic functions. It has frequently been noticed, for example, that many athletes die of tuberculosis. The frequency, perhaps, is apparent rather than real, since an athlete's death from tuberculosis is sure to be remarked because it seems unexpected. It is almost certain, nevertheless, that athletes do not possess any exemption from that disease because of their splendid physical development, and it is even probable that this very fact may increase their liability. Naval officers in active service are confined within rather narrow quarters and have little opportunity to keep up the physical activities that an overtrained and overdeveloped physical organization may need. An excessive muscular development that is not demanded by the occupational activities of the individual becomes a parasitic element in the organism; that is to say, instead of contributing to the individual's total efficiency, the activities required by such a muscular development make drafts on the individual's time and energies and actually decrease his efficiency. Under such circumstances it becomes a positive detriment instead of a benefit.

A CORPORATION WITH A CONSCIENCE

In his last annual message President Taft recommended legislation against the use of white phosphorus in the manufacture of friction matches as causing one of the most serious of occupational diseases. A bill was introduced into Congress acting on this recommendation, but it appears that the use of any substitute had been covered by a patent held by the Diamond Match Company. This fact imperiled the passage of the bill, even if the enforcement of the patent right was not absolutely insisted on by the holder, as Congress thought it could not legislate away a right legally bestowed, even if it was only nominally held. To meet this objection the company has voluntarily surrendered its rights and dedicated the patent to the use of the people of the United States. As the *Outlook* says, this action, whi it may be in some measure dictated by enlightened sel interest, deserves cordial commendation.

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A New York firm that shipped adulterated drugs into another state was prosecuted under the federal Food and Drugs Act. As the government's case against the firm was clear and unmistakable, a plea of guilty was entered. Judge Holt, of the U. S. Circuit Court for the Southern District of New York, before whom the case was tried, suspended sentence over a term of two years. In so doing Judge Holt criticized the methods employed by the government officials in securing the evidence in the case. It appears that the Department of Agriculture had a San Francisco house order from the New York firm a number of different drugs. They were analyzed and the prosecution was based on the chemists' findings. Judge Holt in his criticism said:

> "I do not propose to aid in this sort of perversion of the law and abuse of its processes. This method of getting evidence in cases of this kind is resorted to by inspectors to show their efficiency through the medium of sham orders under cover of interstate commerce. These things were bought for the purpose of getting up a criminal prosecution instead of legitimate business purposes. This is following out the idea of modern federal legislation and taking the proper relief power from the states."

To the man in the street the action of the government employees in securing evidence against the shippers of adulterated drugs seems entirely praiseworthy. From the standpoint of public health there is no doubt that the adulteration of drugs and foods should be stopped, and at present the federal authorities seem to be about the only ones—with a few notable exceptions—that are competent to check it. Judge Holt apparently thinks that, because the adulterated drugs were not bought for "business purposes" the government authorities were overzealous in proving such adulteration. Evidently, the judge would not approve of the various city weight and measure inspectors because, in pursuit of their duties, they purchase food and other products not for "business purposes," but to determine whether the public is being "short-weighted." Anyone conversant with human nature knows that the strongest incentive to commercial honesty is a well-founded belief that dishonesty is constantly being exposed by the officials whose duty it is to safeguard the public's health and purse. Judge Holt also echoes that oft-heard plaint that, in prosecuting "patent-medicine" fakers, drug adulterators and food sophisticators, the federal government is encroaching on the powers of the state! For years before the Food and Drugs Act went into effect the various states had laws which were supposed to protect the public against adulteration in drugs and foods, but the enforcement of these state laws was—and in many cases still is—the veriest of farces. Zealousness on the part of officials who were supposed to enforce the state pure food and drugs laws usually resulted disastrously to such officers, with the result that many state food and drug inspectors were satisfied to become mere salaried figure-heads. If the same opposition is going to be brought against federal officers who have the public health, rather than the "business interests" at heart, we may look for the government officials to develop the same apathy that has paralyzed many of the state food and drugs acts and made state enforcements of law a byword and a reproach. If there is anything the "business interests" like better than a considerate congressman, it is a solicitous judge.

ATHLETICS IN THE NAVAL ACADEMY

In his recent report, the Surgeon-General of the Navy calls attention to a point which may be of some importance: that is, the danger of too strenuous athletic training for naval officers. It has long been observed that highly developed muscles do not always accompany a high resistance to infection, but often weaken resistance by producing an imbalance between the different organic functions. It has frequently been noticed, for example, that many athletes die of tuberculosis. The frequency, perhaps, is apparent rather than real, since an athlete's death from tuberculosis is sure to be remarked because it seems unexpected. It is almost certain, nevertheless, that athletes do not possess any exemption from that disease because of their splendid physical development, and it is even probable that this very fact may increase their liability. Naval officers in active service are confined within rather narrow quarters and have little opportunity to keep up the physical activities that an overtrained and overdeveloped physical organization may need. An excessive muscular development that is not demanded by the occupational activities of the individual becomes a parasitic element in the organism; that is to say, instead of contributing to the individual's total efficiency, the activities required by such a muscular development make drafts on the individual's time and energies and actually decrease his efficiency. Under such circumstances it becomes a positive detriment instead of a benefit.

A CORPORATION WITH A CONSCIENCE

In his last annual message President Taft recommended legislation against the use of white phosphorus in the manufacture of friction matches as causing one of the most serious of occupational diseases. A bill was introduced into Congress acting on this recommendation, but it appears that the use of any substitute had been covered by a patent held by the Diamond Match Company. This fact imperiled the passage of the bill, even if the enforcement of the patent right was not absolutely insisted on by the holder, as Congress thought it could not legislate away a right legally bestowed, even if it was only nominally held. To meet this objection the company has voluntarily surrendered its rights and dedicated the patent to the use of the people of the United States. As the *Outlook* says, this action, while it may be in some measure dictated by enlightened self-interest, deserves cordial commendation.

Medical News

ALABAMA

New Sanatorium.—Dr. Francis G. Dubose will remodel the old parsonage of the First Baptist Church, Selma, as a sanatorium to replace the Vaughan Memorial Hospital which was destroyed by fire, January 5. The reconstruction of the building is estimated to cost $12,000.

Personal.—Drs. R. F. Lovelady and William W. Long, Birmingham, have been elected directors of the American Health and Accident Insurance Company.——Dr. William M. Jordan, Birmingham, who has been under treatment in Johns Hopkins Hospital, Baltimore, has returned home.——Dr. Carney G. Laslie has been elected health officer of Montgomery, vice Dr. Rufus L. Milligan, resigned.——Dr. William Y. White has been appointed health officer of Anniston, vice Dr. Thomas J. Brothers.——Dr. Thomas G. Howard, Selma, has been elected health officer of Dallas County.

ARKANSAS

Personal.—Drs. Early E. Scott, Magazine; James J. Smith, Paris, and William F. Paskerville, Booneville, have been appointed members of the board of health of Logan County.

State Society Meeting.—The thirty-fifth annual session of the Arkansas Medical Society will be held at Fort Smith, May 2-5. The society will be guests of the Sebastian County Medical Society.

Advises Removal of State Hospital.—The committee appointed some time ago by the Board of Trustees of the State Charitable Institutions to investigate the feasibility of the removal of the State Hospital for Nervous Diseases, reported favorably on the proposition, and the report has been approved by the board. It was the unanimous sentiment of the board that the hospital should not be removed from Little Rock, and a committee was appointed to seek an available site for the institution.

CALIFORNIA

Tuberculosis Society to Incorporate.—At the annual meeting of the San Francisco Association for the Study and Prevention of Tuberculosis, held January 31, the election of officers and directors was deferred until February 23, when it was voted to hold an adjourned meeting, that time might be given to discussion of articles of incorporation, etc.

Personal.—Dr. Thomas A. Stoddard, health officer, and Drs. Samuel B. P. Knox and David A. Conrad, members of the board of health of Santa Barbara, have resigned.——Dr. Emma K. Willits, San Francisco, was seriously injured, February 3, by a collision between her automobile and another machine.——Dr. William H. Stokes has been appointed a member of the board of health of Whittier.——Dr. Charles L. King, Pasadena, who was injured in an automobile accident recently, is reported to be convalescent.——Rea N. Smith, Los Angeles, who was sued for malpractice, won the verdict, February 7.

GEORGIA

New City Hospital Started.—At a mass meeting, held in Augusta in the interest of the medical college and a greater city hospital, more than $14,500 was subscribed, making the total amount pledged now $25,200.

Physician Seeks Runaway Son.—Dr. Andrew J. Mann, Alvaton, fearing that his son, William Worcester Mann, has run away, will greatly appreciate any information that may lead to his return. Dr. Mann may be reached at Alvaton by Bell telephone, collect, and at Haralson by telegraph, collect. The description is as follows: age, 16½ years; height, 5½ feet; weight, 150 pounds; broad shoulders and hips; brunette complexion; dark-brown, sharp eyes; dark-brown, curly hair; low bass voice; fine set of even teeth; hat, No. 7; shoes, No. 8; French twilled worsted, dark-blue suit; patent leather slippers; scar across toes of right foot.

Hookworm Conference.—The Rockefeller Commission held a conference in Atlanta, February 14-16, at which the field
he commission organized for the destruction of
m, and planned a campaign to be waged against
nvestigations in Georgia disclose the fact that
f 145 counties in the state, hookworm has been
n the remaining 7 counties, investigation has not
far enough to make a full report. Reports
the conference on the prevalence of hookworm
n states as well as in the south. A uniform
ing reports and records was adopted.

ILLINOIS

Small-Pox in State Hospital.—Three patients of the Elgin State Hospital are confined in the hospital infirmary suffering from what is said to be a mild form of small-pox.

Local Medical Society Elects.—The Alton Medical Society has elected Dr. J. A. Cook, president; Dr. J. Bernard Hastings, secretary, and Dr. Waldo Fisher, treasurer.

Fined for Distributing Nostrum.—B. J. Crowe is said to have been fined $5 and costs, amounting in all to $9.25, in Freeport, February 14, for violating the section of the city ordinance which prohibits the promiscuous distributing of "patent medicines."

The Fight Against Tuberculosis.—Nearly $13,000 will be available for the antituberculosis work in Illinois during the present year as the result of the Red Cross Christmas Seal campaign. The total number of seals sold in Illinois was 1,652,869.

Popular Medical Lectures.—The physicians of Alton, with the indorsement of the Alton and Madison County Medical societies, have undertaken a series of lectures on medical subjects to be given every two weeks for school children and their parents. The following will be the program of the lectures:

February 19.—"Infectious Diseases: Invasion, Attack, How Controlled." Dr. James M. Pfeiffenberger.
March 3.—"Tuberculosis; Prevention and Care of Disease.' Dr. J. Bernard Hastings.
March 17.—"Diseases of Eye." Dr. Fred W. Jones.
March 31.—"Diseases of Nose and Throat." Dr. George E. Wilkinson.
April 7.—"Fresh Air and Exercise." Dr. N. Garland Taphorn.
April 21.—"Sick Room Management." Dr. Homer W. Davis.
May 5.—"Mental Defects." Dr. William H. C. Smith, Godfrey.
May 19.—"Care and Feeding of Babies." Dr. Frederick C. Joesting.
May 29.—"Care of Teeth." R. E. Cockerell, D.D.S.

Chicago

Dispensary Opened.—The Iroquois Memorial Dispensary opened for its first clinic for tuberculosis patients, February 21. The clinic was in charge of Dr. Clarence L. Wheaton.

Take Interest in Mayoralty Campaign.—More than 200 physicians have formed a Charles E. Merriam Club and elected the following officers: president, Dr. John M. Dodson; vice-presidents, Drs. Homer V. Halbert, Isaac N. Dansforth, Albert J. Ochsner and James E. Stubbs; secretary, Dr. Ludvig Hektoen, and treasurer, Dr. Winfield S. Harpole.

Tuberculosis Hospital Staff Named.—The president of the county board announced, February 14, the following attending staff for the Tuberculosis Hospital located on the county hospital grounds: chief of staff, Dr. Clarence W. Leigh, and members, Drs. Thomas A. Hogan, Clyde D. Pense, Frederick Tice, Arthur M. Corwin, Milton Mandel and George B. Dyche.

Benefited by Charity Ball.—The final report of the chairman of the committee which had in charge the Charity Ball, shows that $26,599.08 is the net sum to be distributed. Of this the Children's Memorial and Presbyterian hospitals each receive $5,500, the Alexian Brothers', Chicago Lying-In, The Passavant Memorial, and Provident hospitals, and the visiting Nurses' Association, each $2,250, and the German Hospital, $1,000.

INDIANA

Pettigrew Discharged.—Charles G. Pettigrew, Logansport, whose license was revoked by the State Board of Medical Examiners, and who was arrested on the charge of practicing medicine without a license, was discharged as he proved that he had turned over all his business to licensed practitioners.

New Cottage for Camp Colony.—As the result of the efforts of the South Bend Antituberculosis League, the local colony is to be benefited by at least two new cottages, funds for which have been appropriated by the state committee of the American National Red Cross. The following is the newly elected medical staff of the league: chairman, Dr. Edwin J. Lent; superintendent, Dr. W. H. Hillmann, and Drs. Charles E. Hansel, Roscoe L. Sensenich, Hugh M. Miller, Walter H. Baker, and Charles S. Bosenbury.

Personal.—Dr. William G. Ralston, Evansville, celebrated his ninety-second birthday anniversary, February 13.——Dr. Homer H. Elmore, Brown Valley, was ordained as a clergyman of the Baptist Church, February 2.——Dr. Alfred Henry has been appointed chief of the Indianapolis Free Tuberculosis Clinic, vice Dr. Jewett V. Reed, resigned.——Dr. Charles L. Dreese, Goshen, is reported to be seriously ill.——Dr. Samuel E. Smith, medical superintendent of the Eastern Indiana Hospital for the Insane, East Haven, Richmond, has been appointed chairman of the executive committee of the Twentieth Indiana State Conference of Charities and Corrections.

IOWA

Personal.—Dr. Frederick G. Ellis, of the staff of Mount Pleasant Hospital, has resigned.——Dr. and Mrs. J. W. Grillin, Manson, have returned from Germany.

Appropriation Asked for Epileptic Hospital.—The bill of the State Board of Control, asking for an appropriation of $200,000 for a state epileptic hospital has been presented in the senate by Senator Jewell.

Society Meetings.—The physicians of the southern part of Page County, met at Coin, completed the organization of the Page County Medical Protective Association, and elected Dr. Allen H. King, Coin, president; Dr. Robert W. Blanchard, vice-president; Dr. William G. Johnson, Coin, secretary, and Dr. John R. Thompson, Northboro, treasurer.——At the annual meeting of the Waterloo Medical Society, Dr. J. Q. A. Scroggy was elected president; Dr. W. M. Sterling, vice-president; Dr. Joseph R. Allen, secretary, and Dr. DeWitt C. Hunton, censor.

KANSAS

Personal.—Dr. Owen G. Hutchinson has been appointed physician of Wichita and of Sedgwick County.——Dr. Charles W. Ewing, Wellsville, announces that he is about to cease practice.

Sanatorium Recommended.—The senate in committee of the whole, February 3, recommended for passage the bill of Senator Milligan, providing for the establishment of a sanatorium for tuberculosis patients at some point in western Kansas to be selected by the State Board of Control. The bill carries an appropriation of $25,000 for the establishment of the sanatorium, and is approved by the State Board of Health.

LOUISIANA

Society Moves to Its New Home.—The Orleans Parish Medical Society has occupied the new building recently erected for it on the corner of Elk Place and Gasquet Street, at a cost of $15,000. The lower floor contains the office of the secretary, the library and reading room, and on the floor above is the assembly room with a seating capacity of 200.

Sanitation of Barber Shops.—At a meeting of the state Board of Health, January 20, an ordinance was adopted providing that owners of barber shops shall register their names and place of business not later than July 1, that they must keep hot and cold water, must sterilize their instruments after shaving each person, and prohibiting barbers from treating any person for skin disease, or from shaving any person with skin disease unless the individual furnish his own razor, brush and mug.

MARYLAND

Personal.—Dr. Harry M. Bowen, Aquasco, has been appointed a member of the Board of Commissioners of Prince George County.——Dr. Arthur L. Wright, pathologist to the Maryland Hospital for Insane, near Catonsville, has resigned to accept a position on the medical staff of the Baltimore and Ohio railroad.

Baltimore

Leprosy in Baltimore.—The diagnosis of leprosy is said to have been made in the case of a Chinaman held for observation at the Baltimore Quarantine. The patient is a carpenter on the British Steamer *Eskdale*, which arrived at Baltimore from Liverpool, via Huelva, February 2.

Interest in Health Conference.—Great interest was displayed in the public health conference last week under the auspices of the Medical and Chirurgical Faculty of Maryland. Sessions were well attended and many were crowded, the exhibits also attracting large numbers of people. Among the chief subjects discussed were dress, house, milk, training of children, care of the feeble-minded, etc. As the meetings were so successful, and the public so eager for information, it is proposed to repeat the meetings annually.

Personal.—Dr. Samuel C. Chew was reelected president, and Dr. Henry Barton Jacobs, member of the board of trustees of the Peabody Institute, at a meeting February 13.——Dr. Duncan McCalman was thrown from his automobile in a collision, February 16, sustaining injuries to the back and eye.——Dr. George W. Mahle has been compelled to abandon the practice of medicine on account of ill health.——Dr. Howard J. Maldies has been made lecturer on pathology and bacteriology in the Department of Dentistry of the University of Maryland.——Dr. John C. Hemmeter made an address at the annual meeting of the Pennsylvania Branch of the University of Maryland Alumni at their meeting in Harrisburg, February 23.——In a recent suit, Dr. George W. Dobbin has been awarded $3,800 for damages received in a collision of automobiles.

MICHIGAN

Dinner to Dr. Connor.—A dinner was given by the medical friends of Dr. Leartus Connor at the Detroit Club, February 23, *in commemoration of the fortieth year of his entrance into practice. The committee in charge consisted of Drs.* Justin E. Emerson, Andrew P. Biddle, Arthur D. Holmes, George E. Frothingham, and Benjamin R. Schenck.

MINNESOTA

Society Organized.—The Minnesota Academy of Ophthalmology and Oto-Laryngology was organized in Minneapolis, February 8. The following officers were elected: president, Dr. Howard McI. Morton, Minneapolis; vice-presidents, Drs. Jehiel W. Chamberlin and John F. Fulton, St. Paul, and secretary-treasurer, Dr. Elmer H. Parker, Minneapolis.

Reorganization of State Board of Examiners.—A partial reorganization of the State Board of Medical Examiners was announced by the governor February 16. The new members are as follows: Dr. Frank R. Weiser, Windom, Cottonwood County, to succeed Dr. Thomas Lowe, Pipestone; Dr. Hannah Hurd, Minneapolis, to succeed Dr. Margaret Koch; and Dr. Robert D. Matchan, Hennepin County, to succeed Dr. Frederick A. Knights, Minneapolis, the terms of all to expire January, 1914.——Anton Taylor has been appointed a member of the State Board of Osteopathic Examiners, vice G. L. Huntington.

Personal.—At the annual meeting of the Minnesota Association for the Prevention and Relief of Tuberculosis, Dr. Harry A. Tomlinson, St. Peter, was elected president; Dr. Warren L. Beebe, St. Cloud, as vice-president; and Dr. Henry L. Taylor, St. Paul, secretary.——The offices of Dr. Frank R. Weiser and Dr. Abanson, Windom, were totally destroyed by fire, February 2.——Dr. Edward M. Gans, formerly surgeon in charge of More Hospital, Eveleth, has resigned and expects to remove to Dickinson, N. D.——Dr. Pane B. Cook has been appointed assistant health commissioner of St. Paul.——Dr. Francis R. Woodard, Minneapolis, has been elected chief, and Dr. Willard B. Pineo, secretary of the staff of Asbury Hospital, Minneapolis.——Dr. Walter J. Marcley, superintendent of the State Tuberculosis Sanatorium, Walker, has been appointed secretary and executive agent of the State Tuberculosis Commission.

MISSOURI

St. Louis

Transfer of Insane Patients.—Arrangements have been made for a special train to bring to St. Louis insane patients who are charges of St. Louis, and who have been temporarily housed at the state hospitals at Fulton and Farmington.

Hospital to be Renamed.—A bill formally to change the name of Quarantine Hospital to Robert Koch Hospital was introduced before the municipal assembly, February 10, at the instance of the hospital board. The institution is now being used for the care of cases of tuberculosis.

NEW YORK

Antivaccination Bill.—Among the bills recently introduced into the legislature is one by Assemblyman Boylan providing that unvaccinated children may be admitted to the public schools on certificates of a physician that their physical condition is such that vaccination would jeopardize their health, or on written declaration from their parent or guardians stating that they are conscientiously opposed to vaccination.

Opens Crusade Against Insanity.—The State Charities Aid Association has issued its first pamphlet on insanity, in which it is stated that one-sixth of the total expenditures of the state is for the insane. The amount spent is equal to an annual tax of 70 cents on every man, woman and child in the state. The preventable causes of insanity—immoral living, alcohol and other poisons, physical diseases and mental habits—are enumerated and the belief is stated that insanity cannot be inherited and that only a tendency may be transmitted. A wider knowledge of the causes of insanity is recommended as one of the most effective means of combating it.

Wiley and Cabot in Buffalo.—Dr. Harvey W. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture, Washington, D. C., delivered a lecture recently before the Buffalo Academy of Medicine, Medical Society of the County of Erie, Western New York Section of the American Chemical Society, and the Erie County Pharmaceutical Association on "Public Health Our Greatest Asset." A visit was paid to Niagara Falls and the various chemical industries there, and a dinner was given in honor of Dr. Wiley.——Dr. Richard C. Cabot, Boston, recently delivered a lecture before the Buffalo Branch of the American Prophylaxis Society on "Training of the Affections."

New York City

Receipts from Charity Ball.—The financial results of the German Charity Ball were $11,000, which has been distributed as follows: German Hospital and Dispensary, $2,000; St. Mark's Hospital, $1,300; St. Francis' Hospital, $1,300; German Polyclinic, $1,300; Isabella Home, $1,000; German Dispensary of the West Side, $900; German Ladies' Aid Society, $900 and Wartburg Orphan Asylum, $1,000.

New Building at Sloane Hospital.—To provide for the enlarged scope of the work at the Sloane Hospital for Women a new building for gynecologic cases has been erected. This will be open for inspection Wednesday, March 1, from 2 until 6 o'clock. The original name of the hospital, the Sloane Maternity Hospital, was changed in December, 1910, to the Sloane Hospital for Women, in order to correspond with the extended character of the work. The hospital is located at the corner of Fifty-Ninth Street and Tenth Avenue, the entrance being on Tenth Avenue.

Psychoanalytic Society Organized.—The New York Psychoanalytic Society was organized at a meeting, held February 12. The object of the society is the study of abnormal psychology, advancement of psychoanalysis, and to promote fellowship among psychopathologists. Meetings are to be held on the fourth Tuesday of each month. The society will be incorporated and become affiliated with the parent organization in Zurich, Switzerland. The following officers have been elected: president, Dr. Abraham A. Brill, New York City; vice-president, Dr. Bromislaw Onuf, Amityville, L. I.; and secretary-treasurer, Dr. Horace W. Frink, New York City.

OHIO

Diphtheria Carriers.—"Diphtheria Ernest," a boy of 7, has been found in a Cleveland school, after having infected nineteen other children in the course of several months. The boy is said to be perfectly well, and never to have contracted diphtheria. Throat cultures of 75 other children of the school showed two other diphtheria carriers.

Personal.—Dr. Frank Pennock, Marlboro, whose right arm was amputated at the shoulder at Ingleside Hospital, Canton, February 14, on account of septicemia due to an operation wound, is reported to be orge W. Crile has been appointed chief o staff of Lakeside Hospital, Cleveland.——Dr. Ross V. Dickey, Lima, is reported to be critically ill at his home as the result of cerebral hemorrhage.——Drs. William T. Howard and William T. Corlett, Cleveland, have started for Europe.——Dr. Samuel W. Kelley, Cleveland, is taking a trip to the Bermudas.——Dr. Charles E. Briggs has been appointed visiting surgeon and head of the surgical dispensary, and Dr. Harvey A. Becker, visiting surgeon to Lakeside Hospital, Cleveland.

PENNSYLVANIA

Philadelphia

Personal.—Dr. Aloysius J. Kelly, who has been quite ill for some time, is improving.——Dr. Charles Lincoln Furbush sailed for Europe, February 18.——Dr. S. Weir Mitchell celebrated the 81st anniversary of his birth on February 15.——Dr. Brooke M. Anspach has been made visiting surgeon to the Gynecean Hospital.

Gifts to the College of Physicians.—After the scientific program, at the session of the College of Physicians, February 1, Dr. Robert Abbe, New York City, presented to the college the gold watch of Benjamin Rush, and Dr. William W. Keen, on behalf of the donors, presented to the college a portrait of Dr. William Goodell, the noted gynecologist.

Millions Needed to Relieve Blockley.—Mayor Reyburn hopes to ure from the present legislature nearly $1,000,000
ning of several charitable projects: $350,000 for a
al building at the Philadelphia Hospital, and
half the cost of a building for feeble-minded
ildren. These bills were introduced simultane-
house and senate February 15.

Students to Aid Grenfell.—Students of the
Pennsylvania are making plans to send a del-
p Sir Wilfred T. Grenfell in his medical missionary work among the deep sea fishermen of Labrador. Louis F. Fallon, a sophomore, is in charge of the movement and he is collecting money for the building of a $1,000 launch to be called the *Pennsylvania* and to be used in cruising along the Labrador coast in the service of Dr. Grenfell.

Report of the Milk Commission.—The report of the commission appointed by Mayor Reyburn to investigate the city's milk supply and recommend measures to place it on a sanitary basis profitable to the producer and acceptable to the consumer, was presented to the mayor by Dr. Charles Furbush, chairman of the commission, on February 16. The commission recommended a state-wide inspection of the milk supply by the city authorities in connection with the State Live Stock Sanitary Board; the establishment of a department of milk supervision with a chief supervisor and thirty-five inspectors in the country and thirty-two in the city; an increase in the price of milk of 1 cent a quart to the consumer; a minimum all-year-round price of 5 cents a quart to be paid to the producer; inspection of restaurants, ice cream manufactories, drug stores and all places where milk is sold; establishment by the city of pasteurizing plants.

SOUTH DAKOTA

Auxiliary to State Association Organized.—The wives of members of the South Dakota State Medical Association met at Hot Springs last fall, and formed a woman's auxiliary to the South Dakota State Medical Association, the object being purely social and for the exchange of ideas. The next meeting of the auxiliary will be held in Pierre in June. Mrs. Rudolph D. Jennings, Hot Springs, is president; Mrs. Silas M. Hohf, Yankton, vice-president; Mrs. Harry T. Kenney, Pierre, secretary; and Mrs. Charles S. O'Toole, Vienna, treasurer.

Sanatorium Completed.—The State Tuberculosis Sanatorium, Custer, has been completed by the contractor and is ready to be turned over to the state. Three buildings have been erected, one for the superintendent's residence, the second, a cottage to be used as a dining room and kitchen, with a laundry in the basement, and offices for medical staff, and the third containing sleeping rooms, parlor and library. The board of control will, it is reported, ask for a further appropriation by the state of $54,000 for another building, and $50,000 for maintenance of the institution.

WISCONSIN

Personal.—Dr. Frank R. Weston, LaCrosse, has been appointed medical examiner of the local pension board.——Dr. Arthur W. Rogers has been elected president of the Oconomowoc Health Resort.

State Board Election.—At the annual meeting of the State Board of Health in Madison, January 27, Dr. William F. Whyte, Watertown, was reelected president, and Dr. Cornelius A. Harper, Madison, secretary. The board extended the order against common drinking-cups to all public buildings.

GENERAL NEWS

Research Fellowship.—The accumulated income of the Corinna Borden Keen Research Fellowship of the Jefferson Medical College, Philadelphia, now amounts to $1,000. The fellowship will be awarded by the trustees on recommendation of the faculty to a graduate of Jefferson of not less than one nor more than ten years' standing, on the condition that he spend at least one year in Europe, America, or elsewhere, wherever he can obtain the best facilities for research in the line of work which he shall select after consultation with the faculty, and that he shall publish at least one paper, embodying the results of the work as the "Corinna Borden Keen Research Fellow of the Jefferson Medical College." Applications should be made to Dr. James W. Holland, dean of the college.

The German Hospital of New York.—On the occasion of its fortieth anniversary the governing board of the German Hospital of New York has published a very complete history of the hospital. Those connected with this institution may well be proud of its growth and activities. Accompanying this pamphlet is a *Festschrift* of 593 pages containing contributions by the medical staff of the hospital and its dispensary. These papers are credited to the various services, fourteen to the medical, thirteen to the surgical, five to the gynecologic, four to the ophthalmologic, five to the dermatologic and venereal, and the remainder to the neurologic, ear, nose and throat, dental and laboratory departments, fifty in all. The material comprises the results of observations made on patients and experimental studies in the laboratory and is a valuable addition to medical literature.

FOREIGN NEWS

Bequest by Physician to Found Asylum.—A Spanish physician, Señor Don J. Garcia, who recently died at Valencia, left part of his fortune to found an asylum there for deaf-mutes and the blind.

Statue to Albarran.—The town of Sagua la Grande in Cuba has recently erected a marble statue of "its most illustrious son," Professor Joaquin Albarran, chief of the clinic at Paris for disease of the urinary apparatus. He succeeded Guyon in this much-coveted post in 1906. The statue was erected by popular, nation-wide subscription; a memorial tablet was also placed on the house where he was born.

Fine for Methyl Alcohol Adulteration of Brandy.—Last year a number of serious cases of poisoning at Budapest were traced to the use of a special make of brandy. Investigation revealed that methyl alcohol had been used in its production and was evidently responsible for the poisoning. The distiller was recently sentenced to pay a fine of $2,800 for involuntary homicide resulting from neglect of due caution.

Honor for Professor Schwalbe.—The honorary title of Geheimer Sanitätsrat has been conferred on Professor J. Schwalbe of Berlin, editor of the *Deutsche medizinische Wochenschrift*, of the medical directory for Germany, of a year-book and of several manuals and treatises. Professor Schwalbe, although only 49 years old at present, has long taken a leading part in all matters affecting the welfare of the profession and especially in the propaganda for reform of nostrum abuses.

Deaths in the Profession Abroad.—In addition to the deaths reported by our correspondents, the profession has lost recently Professor G. Profeta of Florence, one of the leading dermatologists of Italy until his retirement a few years ago, author of several manuals on dermatology and syphilis but best known by his assertion that a non-syphilitic child born of syphilitic parents is immune—the so-called Profeta's law.——T. Noriega, professor of pathology and history of medicine at Mexico.——Prof. J. M. Bandera, a prominent ophthalmologist and leader in medical affairs in Mexico, and member of various ophthalmologic and medicolegal societies at home and abroad, aged 73.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 11, 1911.

A Revolution in Bread

A remarkable agitation in favor of more nutritious bread than the ordinary white bread which is almost exclusively eaten by all classes has produced an immense change in the bread supplied by bakers. White bread, introduced as a luxury for the rich, has been adopted by all classes. In order to obtain the more attractive white appearance valuable ingredients contained in the germ and inner husk of the wheat and consisting of protein and salts are removed. Prominent among the evils attributed to the consumption of white bread is dental caries, which is so prevalent and severe that it may be described as a national disaster. In the presence of this great evil of removing from the most important food some of its most valuable ingredients, the medical profession has been very supine. From time to time an occasional article has appeared in medical journals pointing out the defects of white bread, but it has had no more effect than the periodical wail on the abandonment of blood-letting. The only persons who have shown themselves alive to the situation are the vegetarians, who in renouncing most animal foods have shown a keen desire to get as much as possible out of their vegetable food; they have always consumed whole-meal bread. But outside their own sect they have no influence. One association, the "Bread and Food Reform League," somewhat allied to the vegetarians, has for years made praiseworthy attempts to advocate the use of whole-meal bread and has pointed out that much of the underfeeding of the poor is due to ignorance of the value of this bread rather than to want of means. But their words have fallen on deaf ears and it is very difficult to obtain a good whole-meal bread. The bakers sell an inferior article, a brown loaf which is made from a mixture of ordinary white flour with a little bran. In the lay press an agitation in favor of the old cream-colored loaf which is termed "standard bread," and defined as "bread made from unadulterated wheat and containing at least 80 per cent of the whole wheat, including the germ and semolina," has produced such an effect in a few days that the result must be described not as a reform in but as a revolution in bread. Prominent physicians and health officers are supporting the movement. It is proposed to introduce a bill into parliament for the standardization of bread and the proposal has received the support of members of all parties.

Great Increase of Street Accidents Due to Motor Traffic

An alarming increase in the number of street accidents from the recent development of motor traffic is shown by the report issued by the Highways Protection League. In 1905, thirty-five persons were killed and 1,557 injured by accidents due to motor traffic, while 118 were killed and 6,323 injured by horse traffic. In 1909, 163 persons were killed and 6,579 were injured by motor traffic, while 123 were killed and 5,589 were injured by horse traffic.

Daring Experiment of a Physician on Himself with Typhoid Bacilli

Dr. Houston, director of water examination to the Metropolitan Water Board, has made a daring experiment on himself with typhoid bacilli. He was testing the effect of river water on the vitality of typhoid bacilli which had never been subcultured. He found that the bacilli rapidly perished in Thames water. Although well satisfied with the negative results, he put the matter to the crucial test of drinking half a pint of the infected water (which contained initially 218 million typhoid bacilli) on the twenty-fourth day from the start of the experiment without any ill result. In the discussion which followed the reading of this report, Dr. R. M. Beaton, chairman of the water examination committee, suggested that as the punishment of hanging was a rude practice experiments of this kind should be made with condemned criminals.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 3, 1911.

Antityphoid Vaccination

During the discussion on the etiology and prophylaxis of typhoid fever last year at the Académie de médecine, on motion of Professor Chantemesse, a commission was appointed to study antityphoid vaccination (The Journal, March 5, 1910, p. 804). Dr. H. Vincent, for the commission, has just laid before the academy a report to the following effect: The facultative use of antityphoid vaccination should be recommended as a practical and rational means of diminishing the frequency and gravity of typhoid fever in France and in the colonies. This recommendation is addressed to all whose profession, usual or accidental conditions of food or habitat, daily or frequent relation with persons or bacillus carriers, expose them to direct or indirect contagion. This proposition brought forth vigorous protests from Dr. Delorme, *médecin inspecteur général* of the army, who considers the conclusion of the commission as premature and overdrawn. While recognizing that antityphoid vaccination is, at present, of interest to scientific and administrative circles, Dr. Delorme believes that in view of the well-known imperfections of the method (incomplete immunization, negative phase, local and general complications, numerous contra-indications) the Académie de médecine, the counselor of the public authorities, is scarcely authorized to recommend the employment, even facultative, of methods which are still so uncertain, imperfect and cumbered with so many disadvantages and even dangers.

The Health Resorts and Spas of France

A parliamentary group has recently been formed to promote the interests of the thermal and climatic stations of France. It already comprises more than 100 senators and deputies. Its program includes: (1) investigation into the means to give the greatest effect to the law taxing transients at such resorts, passed in 1910 (The Journal, April 23, 1910, p. 1388); (2) creation of a chair of hydrology and climatology at the Faculté de médecine de Paris; (3) creation of a great institute of hydrology and climatology which shall centralize all the chemical, physical, geologic and mineralogic researches needed by our stations to extend their usefulness and to complete the instruction of young physicians who wish to specialize in hydrology and climatology.

The law imposing a tax on visitors will furnish important revenues for the improvement of the hygiene of the stations, and their embellishment, etc. The creation of a chair of hydrology and climatology at the Faculté de médecine de Paris has been demanded for twenty years by all the congresses on hydrology and by associations of physicians interested in the subject. The innovation will have the greater chance of success because it will cost the government nothing, since the

Syndicat des stations thermales de France, which is directly interested in the question, has undertaken to provide the expense of the chair. The only condition imposed by the *syndicat* on its gift is that the professor appointed shall be competent, and shall promise to regard the position as permanent, not as a temporary makeshift.

Measures Against the Propaganda for the Prevention of Conception

The criminal court of the Seine has just condemned a certain Lip Tay, who has two advertisements with reference to the prevention of conception in a catalogue of special publications. Lip Tay's defense was that he was simply popularizing medical information. The court, however, did not sustain his plea and condemned him to pay $40 fine (200 francs) on the ground that this propaganda was an offense against morals. This decision will tend to arrest the propaganda.

BERLIN LETTER

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Professor Roentgen of Münich, Professor Hering of Leipsic, and Professor Retzius of Stockholm have received membership in the order of science and arts (Orden pour le Mérite der Wissenschaften und Künste), one of the few among the numerous Prussian orders which is bestowed *only for actual* achievement.

Professor Bier, director of the surgical clinic at Berlin, has been elected a foreign member of the Belgian academy of sciences.

Honorary Title for the Kaiser

The promotion of the Kaiser to the honorary title of Doctor by the Prague medical faculty will take place soon in the throne room of the palace in Berlin. The rector of the Prague German university, the present dean of the medical faculty, Professor v. Jaksch and Professor Hering will come to Berlin to officiate.

Multiple Offices for Physicians

In Berlin and probably also in other large cities of Germany it has been for some time the custom for a number of specialists to have offices for private patients in two places in the city, one in their private residence and one in their private clinic or the policlinic. The first is usually in the fashionable western part of the city and the latter in the center or in the outskirts. The reason for this condition is that the central part of Berlin, like London and New York, is gradually being given up more and more to business, for which reason the larger part of patients able to pay have migrated to the west and the physicians follow them but keep their office down town for the patients who still remain in that locality. As other physicians are injured by this doubling of offices there have been complaints made against this custom in the medical press and in the medical societies. As a result the business committee of the Berlin Medical Society, a short time ago, took up the question and made the following decision:

1. Policlinics in their essence and their historical development are institutions for the gratuitous treatment of the section of the public which is unable to pay. In addition to this humanitarian purpose they should serve the scientific and technical education of the physicians in charge, their assistants and other physicians. The gratuitous treatment of members of the Krankenkassen in the policlinics, dispensaries and the offices of the insurance physicians, has led, under the influence of the social legislation, to a deviation from the principal aim of gratuitous treatment. A further conversion of the policlinic and similar institutions into additional offices in which private patients are treated for pay, is as a whole contrary to the interests of special practice and of the medical profession.

2. The need for several offices for a physician doing a general practice does not exist to an extent to justify a deviation from the method in which medical practice has hitherto been carried on.

3. The decision as to whether in individual cases the maintenance of several offices for pay patients is permissible or not belongs only to the state medical court of honor.

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The senate of the Berlin university has now acceded to a long-cherished wish of the university circles interested in gymnastics and sport by appointing, on motion of the university turner society, an academic committee which is to be the highest authority on all questions which concern physical exercise. The committee consists of the rector, Professor Rubner, Professor Waldeyer, Professor N. du Bois-Reymond, and others. The Berlin university in adopting this thoroughly modern arrangement which gives expression to the idea that the university should care not alone for the intellectual but also for the physical education of its youth is following the example of Breslau and Marburg. It now will be the task of the student body to show an interest in the matter corresponding to that of the authorities.

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Expenditures for the Medical Schools

The ordinary budget for medical teaching in Austria has a few days ago been finally fixed, and the figures are now published. For this purpose 6,000,000 kronen ($1,200,000) will be spent. Of this sum, Vienna receives 2,154,000 kronen ($430,800); Graz requires only 625,000 kronen ($125,000); Innsbruck 453,000 kronen; Prague, which has two medical schools, a German and a Slavic one, requires for each about 740,000 *kronen* or $150,000. Besides there are two Polish medical schools, one in Lemberg, requiring 480,000 kronen or $96,000, and one in Cracow, which receives $150,000. These sums cover only the ordinary expenditure; the sum of $50,000 is devoted to extraordinary expenses. Apart from these figures, the fees and salaries for special subventions and rewards amount to another $360,000. There are active at present:

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Deaths

Joseph Rowe Smith, Brigadier General Medical Corps, U. S. Army, retired, died at the home of his sister in Philadelphia, February 11, from pneumonia, aged 79. He was graduated from the University of Buffalo, N. Y., in 1853, and a year later was commissioned as assistant surgeon in the army; five years later he was promoted to captain, and served in the west and southwest until the outbreak of the Civil War. When on duty at San Antonio, Tex., he was captured by the Confederates; and on being paroled was assigned to the duty of organizing hospitals. In 1862, he received his promotion to major, and at the close of the war was medical director of the Seventh Army Corps, and had been brevetted lieutenant colonel for "superior ability and excellent management of the affairs of the department." He was promoted to lieutenant colonel in 1885, attained his colonelcy in 1890; was retired by operation of law in 1895, and attained the rank of brigadier general, retired, nine years later. His last official duty was as medical director of the Department of the East. He was a member of the American Medical Association for many years, and vice-president in 1877, and was the Army delegate to the Association from 1874 to 1878, inclusive, and from 1882 to 1885, inclusive. He was also a delegate to four international medical congresses. General Smith was the author of a number of standard medical works, bearing particularly on the care and treatment of soldiers. He was one of the incorporators of the New York Post-Graduate Medical School and Hospital, and a member of the Association of Military Surgeons of the United States, American Academy of Medicine and many other medical societies.

Uranus Owen Brackett Wingate, M.D., for several years health commissioner of Milwaukee, and for ten years secretary of the Wisconsin State Board of Health; died at his home in Milwaukee, February 19, from pneumonia, aged 62. He was born in Rochester, N. H., enlisted in the Army at the age of 16 and served throughout the Civil War. He attended three courses of lectures at Harvard Medical School, and Dartmouth Medical School, Hanover, N. H., graduating from the latter institution in 1875. He practiced until 1886 in Haverhill and Wellesley, Mass., and served for five years as a member of the Medical Corps of the Massachusetts Volunteer Militia. In 1886, he moved to Milwaukee, four years later was made health commissioner of the city, and 1894, was appointed secretary of the Wisconsin State Board of Health. He was a member of the American Medical Association, and for several years chairman of the committee on the national department of health; the American Public Health Association, American Psychological Association, and the Milwaukee County Medical Society, of which he was once president. He was professor of diseases of the nervous system and hygiene in the Wisconsin College of Physicians and Surgeons; visiting neurologist to St. Mary's and Milwaukee County Hospitals, and consulting neurologist to St. Joseph's Hospital. He contributed many articles on subjects connected with his specialties, to the medical literature.

Horace Wilbur Patterson, M.D. College of Physicians and Surgeons, New York City, 1895; a member of the Medical Society of the State of New York; and for five years secretary of the Richmond County Medical Society; chief of the department of communicable diseases of the Department of Health of Richmond Borough, and pathologist to the S. R. Smith Infirmary; assistant surgeon of the First New Jersey Infantry, U. S. V., during the Spanish-American War, and afterwards captain and assistant surgeon of the First Infantry, N. J. National Guard, and First Lieutenant Medical Reserve Corps, U. S. Army; died in the S. R. Smith Infirmary, February 5, after an operation for cholelithiasis, aged 38.

James Kerr, M.D. Queen's University, Dublin, Ire., 1870; a member of the Medical Association of the District of Columbia; professor of surgery in Georgetown University, and a member of the surgical staff of Providence and Emergency Hospitals and the Woman's Dispensary; surgeon in the British service during the Ashanti war; later chief surgeon of the Canadian Pacific Railway; surgeon in the Canadian militia; one of the organizers of, and president and professor of surgery in the Manitoba Medical College, Winnipeg; since 1888 a resident of Washington, D. C.; died at his country home near Warrenton, Va., February 2, aged 62.

Samuel David Hopkins, M.D. University of Pennsylvania, Philadelphia, 1893; a member of the American Medical Association, and American Neurological Society; professor of nervous and mental diseases in the Denver College of Medicine and Surgery; president of the staff of St. Joseph's Hospital, and neurologist to Denver County Hospital; a specialist on nervous and mental diseases; died in St. Joseph's Hospital, Denver, February 4, two days after an operation for appendicitis, aged 38. At a special meeting of the City and County of Denver, resolutions were adopted eulogizing the character, work and personality of Dr. Hopkins.

Joseph B. Ward, M.D. Hahnemann Medical College, Philadelphia, 1857; at one time professor in the Homeopathic Medical College of Missouri, St. Louis; assistant surgeon of the Eleventh New York Volunteer Infantry during the Civil War; for two years vice-president of the New Jersey Tuberculosis Commission; chairman of the executive committee of the State Horticultural Society; a member of the executive committee of the State Board of Agriculture; died at his home in Newark, February 3, from heart disease, aged 76.

James Buchanan Walker, M.D. Miami Medical College, Cincinnati, 1882; local surgeon at Effingham, Ill., of the Illinois Central, Vandalia, and Wabash Railways; a member of the surgical staff of St. Anthony's Hospital; a member of the American Medical Association, and Æsculapian Society of the Wabash Valley, and American Association of Life Insurance Examiners; supreme medical examiner of the fraternal order of Modern Americans; died at his home, February 11, from cerebral hemorrhage, aged 54.

Edwin Powell, M.D. Rush Medical College, Chicago, 1857; formerly demonstrator of anatomy and professor of military surgery in his alma mater; surgeon of the Seventy-Second Illinois Volunteer Infantry, and later in charge of the Seventeenth Army Corps Hospital and the McPherson General Hospital during the Civil War; a member of the staff of Cook County Hospital; died at his home near Maryville, Mo., February 13, from influenza, aged 76.

Edwin Gilmore Knill, M.D. University of Toronto, 1882; M.R.C.S., Eng., L.R.C.P., Lond., 1883; L.R.C.S., L.R.C.P., Edin., 1883; a member of the Michigan State Medical Society; adjunct professor of pathology and morbid anatomy, and clinical professor of medicine in the Detroit College of Medicine; a member of the staff of Harper Hospital; died at his home in Detroit, February 10, from cerebral hemorrhage, aged 55.

Columbus Henry, M.D. University of Pennsylvania, Philadelphia, 1871; formerly a member of the Delaware State Medical Society and State Board of Medical Examiners; for many years president of the Board of Trustees of the Poor of Newark, Del., and president of the Board of Trustees of the Newcastle County Hospital; died at his home in Newark, January 14, from hepatic and arteriosclerosis, aged 67.

Frank S. Low, M.D. Castleton (Vt.) Medical College, 1850; once president of the Oswego County Medical Society and vice-president of the Medical Society of the State of New York; consulting physician to the Oswego City Hospital; once sheriff and coroner of Oswego County, N. Y.; a member of the board of education; died at his home in Pulaski, February 3, aged 82.

Reuben Conway Shultz, M.D. New York University, New York City, 1880; a member of the Medical Society of the State of California; for several years a member of the staff of the *New York Medical Journal,* but for the last thirteen years a resident of Los Angeles; died at his home in that city, January 29, from chronic bronchitis, aged 57.

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Deaths

Joseph Rowe Smith, Brigadier General Medical Corps, U. S. Army, retired, died at the home of his sister in Philadelphia, February 11, from pneumonia, aged 79. He was graduated from the University of Buffalo, N. Y., in 1853, and a year later was commissioned as assistant surgeon in the army; five years later he was promoted to captain, and served in the west and southwest until the outbreak of the Civil War. When on duty at San Antonio, Tex., he was captured by the Confederates; and on being paroled was assigned to the duty of organizing hospitals. In 1862, he received his promotion to major, and at the close of the war was medical director of the Seventh Army Corps, and had been brevetted lieutenant colonel for "superior ability and excellent management of the affairs of the department." He was promoted to lieutenant colonel in 1885, attained his colonelcy in 1890; was retired by operation of law in 1895, and attained the rank of brigadier general, retired, nine years later. His last official duty was as medical director of the Department of the East. He was a member of the American Medical Association for many years, and vice-president in 1877, and was the Army delegate to the Association from 1874 to 1878, inclusive, and from 1882 to 1885, inclusive. He was also a delegate to four international medical congresses. General Smith was the author of a number of standard medical works, bearing particularly on the care and treatment of soldiers. He was one of the incorporators of the New York Post-Graduate Medical School and Hospital, and a member of the Association of Military Surgeons of the United States, American Academy of Medicine and many other medical societies.

Uranus Owen Brackett Wingate, M.D., for several years health commissioner of Milwaukee, and for ten years secretary of the Wisconsin State Board of Health; died at his home in Milwaukee, February 19, from pneumonia, aged 62. He was born in Rochester, N. H., enlisted in the Army at the age of 16 and served throughout the Civil War. He attended three courses of lectures at Harvard Medical School, and Dartmouth Medical School, Hanover, N. H., graduating from the latter institution in 1875. He practiced until 1886 in Haverhill and Wellesley, Mass., and served for five years as a member of the Medical Corps of the Massachusetts Volunteer Militia. In 1886, he moved to Milwaukee, four years later was made health commissioner of the city, and 1894, was appointed secretary of the Wisconsin State Board of Health. He was a member of the American Medical Association, and for several years chairman of the committee on the national department of health; the American Public Health Association, American Psychological Association, and the Milwaukee County Medical Society, of which he was once president. He was professor of diseases of the nervous system and hygiene in the Wisconsin College of Physicians and Surgeons; visiting neurologist to St. Mary's and Milwaukee County Hospitals, and consulting neurologist to St. Joseph's Hospital. He contributed many articles on subjects connected with his specialties, to the medical literature.

Horace Wilbur Patterson, M.D. College of Physicians and Surgeons, New York City, 1895; a member of the Medical Society of the State of New York; and for five years secretary of the Richmond County Medical Society; chief of the department of communicable diseases of the Department of Health of Richmond Borough, and pathologist to the S. R. Smith Infirmary; assistant surgeon of the First New Jersey Infantry, U. S. V., during the Spanish-American War, and afterwards captain and assistant surgeon of the First Infantry, N. J. National Guard, and First Lieutenant Medical Reserve Corps, U. S. Army; died in the S. R. Smith Infirmary, February 5, after an operation for cholelithiasis, aged 38.

James Kerr, M.D. Queen's University, Dublin, Ire., 1870; a member of the Medical Association of the District of Columbia; professor of surgery in Georgetown University, and a member of the surgical staff of Providence and Emergency Hospitals and the Woman's Dispensary; surgeon in the British service during the Ashanti war; later chief surgeon of the Canadian Pacific Railway; surgeon in the Canadian militia; one of the organizers of, and president and professor of surgery in the Manitoba Medical College, Winnipeg; since 1888 a resident of Washington, D. C.; died at his country home near Warrenton, Va., February 2, aged 62.

Samuel David Hopkins, M.D. University of Pennsylvania, Philadelphia, 1893; a member of the American Medical Association, and American Neurological Society; professor of nervous and mental diseases in the Denver College of Medicine and Surgery; president of the staff of St. Joseph's Hospital, and neurologist to Denver County Hospital; a specialist on nervous and mental diseases; died in St. Joseph's Hospital, Denver, February 4, two days after an operation for appendicitis, aged 38. At a special meeting of the City and County of Denver, resolutions were adopted eulogizing the character, work and personality of Dr. Hopkins.

Joseph B. Ward, M.D. Hahnemann Medical College, Philadelphia, 1857; at one time professor in the Homeopathic Medical College of Missouri, St. Louis; assistant surgeon of the Eleventh New York Volunteer Infantry during the Civil War; for two years vice-president of the New Jersey Tuberculosis Commission; chairman of the executive committee of the State Horticultural Society; a member of the executive committee of the State Board of Agriculture; died at his home in Newark, February 3, from heart disease, aged 76.

James Buchanan Walker, M.D. Miami Medical College, Cincinnati, 1882; local surgeon at Effingham, Ill., of the Illinois Central, Vandalia, and Wabash Railways; a member of the surgical staff of St. Anthony's Hospital; a member of the American Medical Association, and Æsculapian Society of the Wabash Valley, and American Association of Life Insurance Examiners; supreme medical examiner of the fraternal order of Modern Americans; died at his home, February 11, from cerebral hemorrhage, aged 54.

Edwin Powell, M.D. Rush Medical College, Chicago, 1857; formerly demonstrator of anatomy and professor of military surgery in his alma mater; surgeon of the Seventy-Second Illinois Volunteer Infantry, and later in charge of the Seventeenth Army Corps Hospital and the McPherson General Hospital during the Civil War; a member of the staff of Cook County Hospital; died at his home near Maryville, Mo., February 13, from influenza, aged 76.

Edwin Gilmore Knill, M.D. University of Toronto, 1882; M.R.C.S., Eng., L.R.C.P., Lond., 1883; L.R.C.S., L.R.C.P., Edin., 1883; a member of the Michigan State Medical Society; adjunct professor of pathology and morbid anatomy, and clinical professor of medicine in the Detroit College of Medicine; a member of the staff of Harper Hospital; died at his home in Detroit, February 10, from cerebral hemorrhage, aged 55.

Columbus Henry, M.D. University of Pennsylvania, Philadelphia, 1871; formerly a member of the Delaware State Medical Society and State Board of Medical Examiners; for many years president of the Board of Trustees of the Poor of Newark, Del., and president of the Board of Trustees of the Newcastle County Hospital; died at his home in Newark, January 14, from hepatic and arteriosclerosis, aged 67.

Frank S. Low, M.D. Castleton (Vt.) Medical College, 1850; once president of the Oswego County Medical Society and vice-president of the Medical Society of the State of New York; consulting physician to the Oswego City Hospital; once sheriff and coroner of Oswego County, N. Y.; a member of the board of education; died at his home in Pulaski, February 3, aged 82.

Reuben Conway Shultz, M.D. New York University, New York City, 1880; a member of the Medical Society of the State of California; for several years a member of the staff of the *New York Medical Journal*, but for the last thirteen years a resident of Los Angeles; died at his home in that city, January 29, from chronic bronchitis, aged 57.

Carter Lurton Broaddus, M.D. Vanderbilt University, Nashville, Tenn., 1892; a member of the Kentucky State Medical Society, and formerly vice-president of the Trigg County (Ky.) Medical Society; for many years a resident of Hopkinsville; died in Lebanon, Tenn., January 11, from cerebral hemorrhage, aged 48.

Riley Allen Atkins, M.D. Medical College of Virginia, Richmond, 1864; a member of the Newport News Medical Society; a sailor in the Confederate navy during the Civil War, detailed to hospital duty; surgeon for the Virginia Railway at Pine Beach; died at his home, January 9, from pneumonia, aged 74.

Walter Howard Snow, M.D. New York University, New York City, 1880; formerly physician to the Society for the Prevention of Cruelty to Children, and instructor in gynecology in the University of the City of New York; died at his home in New Lebanon, N. Y., January 27, from uremia, aged 51.

Joseph Clements, M.D. Kansas City (Mo.) Medical College, 1891; and later clinical instructor on diseases of children in his alma mater; for twenty years a clergyman; a writer on psychology and metaphysics; died at his home in Wichita, Kan., January 31, from valvular heart disease, aged 70.

John Cassilis Cockburn, M.D. Harvard Medical School, 1872; a member of the American Medical Association; once president of the Hennepin County Medical Society; for thirty-one years a practitioner of Minneapolis; died at his home in that city, February 5, from interstitial nephritis, aged 69.

Jane Howell Harris, M.D. Woman's Medical College of the New York Infirmary for Women and Children, 1899; for eight years a medical missionary of the Presbyterian Board in San Juan, Porto Rico; died at her home in Isabela, Porto Rico, Nov. 21, 1910, from pneumonia, aged 38.

William Menger, M.D. New York University, New York City, 1897; of Union Hill, N. J.; while suffering from mental disorder and an inmate of a sanitarium at Paterson, N. J., is said to have cut his throat, January 8, inflicting a wound from which he died soon after, aged 34.

Hubert Pemberton Doak, M.D. University of Nashville, Tenn., 1893; a member of the Tennessee State Medical Association; formerly of Greenville, and secretary of the local pension examining board; died at his home in Tusculum, February 5, from pneumonia, aged 46.

Augustine von Galny, M.D. University of Berlin, Germany, 1847; (license, Eighteenth Judicial District Board, Texas,, 1878); surgeon in the Prussian and Danish armies; a member of the State Medical Association of Texas; died at his home in Galveston, February 1, aged 83.

George W. Menees, M.D. Vanderbilt University, Nashville, 1879; a member of the Missouri State Medical Association; health officer of Clinton; died February 7, from the inhalation of fumes of formaldehyd, after disinfecting a house where small-pox had occurred, aged 54.

Joseph Preston Gray, M.D. University of Tennessee, Nashville; a graduate in both medicine and dentistry; a member of the American Medical Association; and of the Nashville Academy of Medicine; died at his home, Sept. 30, 1910, from cerebral hemorrhage, aged 55.

John Warner Kniskern, M.D. Albany (N. Y.) Medical College, 1890; ophthalmic and aural surgeon to the Amsterdam (N. Y.) Hospital; a specialist in diseases of the eye and ear; died at his home in Amsterdam, January 31, from tuberculosis of the throat, aged 43.

Alexander McKlveen McLain, M.D. Western Pennsylvania Medical College, Pittsburg, 1898; of Post Falls, Ida., formerly of Irwin Pa.; for two years a member of the village council; died in Spokane, Wash., January 12, from pernicious anemia, aged 51.

James A. C. Milliken, M.D. Medical School of Maine, Brunswick, 1910; assistant in the Western Washington Hospital for the Insane, Fort Steilacoom; died at his home in New Bedford, Mass., Dec. 29, 1910, from lymphatic leukemia, aged 25.

George Augustus Steinicken, M.D. University of Pennsylvania, Philadelphia, 1890; of New York City; until 1904 a practitioner of Wilmington, Del.; died in Roosevelt Hospital, New York City, Dec. 22, 1910, from pneumonia, aged 45.

Alfred Augustus Herrmann, M.D. College of Physicians and Surgeons, Chicago, 1904; of Chicago; a member of the American Medical Association; died in Pasadena, Cal., Nov. 29, 1910, from tuberculosis of the kidney, aged 30.

John Kapp, M.D. University of Michigan, Ann Arbor, 1868; a member of the Michigan State Medical Society; for three terms mayor of Ann Arbor; died at his home in Los Angeles, January 17, from general breakdown, aged 69.

Benjamin W. Searle, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1873; of Ottumwa, Ia.; a veteran of the Civil War; died in Wesley Hospital, Chicago, February 17, after an operation for appendicitis, aged 69.

Leroy Hall Sibley, M.D. College of Physicians and Surgeons, Chicago, 1903; a member of the Vigo County (Ind.) Medical Society; died at his home in Terre Haute, Sept. 26, 1910, from pulmonary tuberculosis, aged 30.

Leroy W. Heath, M.D. Cleveland University of Medicine, and Surgery, 1882; a member of the Medical Society of the State of Pennsylvania; died at his home in Mercer, Pa., January 26, from general paresis, aged 52.

Cyrenius Benjamin Vaughan, M.D. Bellevue Hospital Medical College, 1875; a member of the Medical Society of the State of New York; died at his home in Morrisonville, February 1, from heart disease, aged 64.

Louis deValois Wilder, M.D. Hahnemann Medical College, Philadelphia, 1855; for many years chief surgeon of the Flower Hospital; died at his home in New York City, February 5, from heart disease, aged 93.

James Marshall Tinsley, M.D. University of Louisville, Ky., 1880; formerly of Champaign, Philo and Rantoul, Ill.; died at his home in Mount Vernon, Ill., February 2, from cerebral hemorrhage, aged 61.

Leo J. O'Shaughnessy, M.D. Kansas City (Mo.) Hahnemann Medical College, 1908; was shot and killed in a pistol duel with a brother physician, in his office in Wetumka, Okla., February 3, aged 28.

Richard Maury Cunningham, M.D. Vanderbilt University, Nashville, 1892; for thirty-three years a practitioner of Tennessee; died at his home in Palmyra, Nov. 25, 1910, from pneumonia, aged 74.

Frank H. Fisk, M.D. Albany (N. Y.) Medical College, 1883; a member of the Medical Society of the State of New York; died at his home in West Sand Lake, January 22, from lobar pneumonia, aged 56.

Edward Francis Dodd, M.D. University of Nebraska, Lincoln, 1887; for twenty years a practitioner of Newport, Neb.; died at Fairview, Okla., Dec. 29, 1910, from edema of the glottis, aged 47.

Isaac Francis Coffin, M.D. New York University, New York City, 1885; coroner of Herkimer County, N. Y., in 1900; died at his home in North Ilion, Dec. 23, 1910, from spinal disease, aged 62.

Charles Eugene Arthur Dorval, M.D. Victoria College, Coburg, Ont., 1874; of Montreal; died in the Hôtel Dieu in that city, Dec. 26, 1910, from peritonitis, following a gastric ulcer, aged 58.

Lawrence Ryan, M.D. Dublin (Ire.) Medical College; at one time medical health officer of Edmonton, Alta.; died in Saskatoon, Sask., Nov. 10, 1910, from heart disease complicating typhoid fever.

Alfred Wesley Bear, M.D. Washington University, Baltimore; for nearly forty years a practitioner of Barnard, Mo.; died at his home in that place, January 21, from influenza, aged 69.

Felix Dydine Fontaine, M.D. Laval University, Montreal, 1857; (license, Massachusetts, years of practice, 1894); died at his home in Worcester, January 31, from senile debility, aged 79.

Henry Rutgers Cannon, M.D. New York University, New York City, 1843; first clerk of Union County, N. J.; died at his home in Elizabeth, January 9, from senile debility, aged 89.

Lincoln D. Foreman, M.D. American Medical College, Eclectic, St. Louis, 1884; slipped from a ladder at his home in Peoria, Ill., February 9, and was instantly killed, aged 49.

Seth H. Truesdale, M.D. Western Reserve University, Cleveland, 1876; a veteran of the Civil War; died at his home in Poland, O., February 5, from locomotor ataxia, aged 69.

George W. Ray, M.D. Rush Medical College, 1867; a pioneer practitioner of Joplin, Mo.; died at St. John's Hospital in that city, February 8, from pernicious anemia, aged 68.

George W. Corman, M.D. American Medical College, Eclectic, St. Louis, 1883; of Paris, Ark.; died on a train near Lavaca, Ark., Dec. 15, 1910, from heart disease, aged 54.

Thomas Graham, M.D. Grand Rapids (Mich.) Medical College, 1907; died at his home in St. James, Beaver Island, Mich., January 16, from diabetes, aged 34.

Lawrence Ellsworth Jones, M.D. Howard University, Washington, D. C., 1907; died at his home in Rochester, Pa., Dec. 28, 1910, from acute nephritis, aged 31.

F. C. Woodard, M.D. Louisville (Ky.) Medical College, 1887; a member of the American Medical Association; died at his home in Grapeland, Tex., January 31, aged 63.

James Arthur Metcalfe, M.D. Louisville (Ky.) Medical College, 1873; died at his home in Los Angeles, Cal., January 18, from carcinoma of the leg, aged 58.

Evan Jones, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; died at his home in New Cambria, Mo., January 30, from pneumonia, aged 65.

John C. David, M.D. Hahnemann Medical College, Chicago, 1878; died at his home in Sandwich, Ill., February 2, from cancer of the esophagus, aged 62.

J. W. Bartlett (license, Kentucky, thirty-six years of practice, 1893); died at his home in Kirkmansville, February 8, from senile debility, aged 78.

Theodore Rahlfs, M.D. Rush Medical College, 1888; died in his office in Tacoma, Wash., January 23, in an epileptic convulsion, aged about 60.

George Fisk Wilber, M.D. Long Island College Hospital, Brooklyn, 1864; died at his home in Nashua, N. H., January 21, aged 71.

Association News

THE LOS ANGELES SESSION

Arrangements Being Perfected for the Next Annual Session

Readers of The Journal will be kept informed from week to week concerning the arrangements for the Los Angeles Session. In the last issue, a list of hotels was published, giving the rates, capacities, etc., and a preliminary announcement of the railroad rates; and this week there is given some information about special trains and entertainments.

Entertainments

The Los Angeles Session bids fair to stand out with unusual prominence with respect to the amount and quality of entertaining done by the local profession. The matter is spoken of thus early to encourage members to plan to go to Los Angeles. The occasion will be one of great enjoyment. Some of the entertainments are as follows: On Friday those who have finished their section work will be taken by boat to the famous Catalina Island and given a barbecue. This trip will be duplicated on Saturday for the others in attendance.

Friday will also be called Pasadena Day. Shortly after noon, when all the scientific work will have been completed, there will be an automobile trip to Pasadena with a Spanish barbecue in the Sunken Gardens. This will be followed by chariot races in Tournament Park, especially arranged for the benefit of the members of the American Medical Association. The day will be concluded by trips to the seashore with entertainments at Venice and Ocean Park.

On Saturday those who do not wish to go to Catalina Island may take a trip to San Pedro Harbor and Long Beach with lunch at the Hotel Virginia.

Other trips in the vicinity, for which especial railroad rates will probably be granted, are to the olive orchards of San Fernando, to the orange groves of Riverside and Redlands and to San Diego, the renowned resort some miles down the coast.

Judging from the inquiries received by various committees, the attendance at Los Angeles will probably be larger than a good many prophets anticipated, who were judging solely by the distance of the meeting-place from the center of the United States. The attractiveness of Los Angeles and the opportunity of various trips are two things which will largely tend to counteract the distance. For this reason we repeat the suggestion of last week, given in connection with the list of hotels, and urge those who expect to go to Los Angeles that they reserve hotel accommodations early. There are plenty of hotels, but those who write for accommodations late cannot expect to have their choice of the best rooms.

Announcement of Transportation Committee

In looking over the numerous letters of the members received in response to the request published in The Journal, Dec. 10, 1910, p. 2078, it is found that a large majority of them are in favor of taking the southern route to Los Angeles in June. The committee therefore announces that it has arranged for a special train from Chicago to Los Angeles over the Santa Fé route. This train, which will be a counterpart of the famous California Limited, will afford every first-class accommodation, standard berths, compartments and drawing-rooms. There will be a fully equipped club car with valet and barber in attendance, dining car and observation car. The club car and observation parlor are supplied with an abundance of the best current magazines and newspapers, a carefully selected library and writing material.

This train will leave Chicago at 8:00 p. m., Wednesday, June 21, and will run in accordance with the following schedule:

TIME SCHEDULE OF SPECIAL TRAIN

Lv. Chicago	8:00 p. m.,	Wednesday,	June 21
Ar. Kansas City	9:00 a. m.,	Thursday,	June 22
Lv. Kansas City	9:10 a. m.,	Thursday,	June 22
Ar. Albuquerque	11:05 a. m.,	Friday,	June 23
Lv. Albuquerque	12:30 p. m.,	Friday,	June 23
Ar. Laguna	2:30 p. m.,	Friday,	June 23
Lv. Laguna	3:30 p. m.,	Friday,	June 23
Ar. Grand Canyon	6:00 a. m.,	Saturday,	June 24
Lv. Grand Canyon	10:00 a. m.,	Sunday,	June 25
Ar. Los Angeles	7:00 a. m.,	Monday,	June 26

At Albuquerque a stop of one hour and a half will be made in order to afford an opportunity for all to visit the very interesting collection of Indian and Mexican hand work. This is undoubtedly the finest collection of Indian and Mexican work in the world. At Laguna a stop of one hour will be made, affording an opportunity to visit the Pueblo Indian village. These short stops not only break the monotony of the trip but also permit of sight-seeing which cannot be had on any of the regular trains.

A stop of twenty-eight hours will be made at the Grand Canyon. It is unnecessary to dilate on the wonderful beauty of this work of Nature. The time spent here is sufficiently long to permit of descending into the canyon and also of visiting points of interest on the rim. Being there over night also affords an opportunity of seeing the sun rise and set. These sights alone are well worth the trip.

The train will arrive at Los Angeles at 7:00 o'clock Monday morning in time for the delegates to attend the opening meeting of the House of Delegates. For those members who do not care to reach Los Angeles before Monday evening, arrangements will be made whereby cars will be taken via Redlands and Riverside and sufficient time given to visit both these interesting points, reaching Los Angeles about 6:00 p. m.

The round trip fare from Chicago is $62.50 with an addition of $6.50 for the Grand Canyon side ride. The Pullman rates are, upper berth $12.80, lower berth $16.00, compartment $45.00, drawing-room $56.00. These rates include the side trip to the Grand Canyon and also provide for the occupancy of the cars at the Grand Canyon if so desired.

One may return by any direct route, which means by any route going as far north as San Francisco and Ogden. To those who wish to return by any of the northern routes, an additional fare of $15.00 will be charged. These rates are not available for both going and returning by the northern routes. All those, therefore, who contemplate visiting Yellowstone Park, the Canadian Rockies or other points of interest on the northern routes are cautioned to see that they go by some of the southern routes and arrange for these stop-overs on their return trip. There will be plenty of time to make all of these trips after the meeting on the return passage, as the return limit on the tickets is September 15, but there will not be time to make these extended side trips going.

Announcement of eastern rates and trains will be made later.

M. L. Harris, Chicago,
Chairman, Committee on Transportation.

"The Propaganda for Reform"

[illegible] Appear Reports of the Council and of the Association [illegible] Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

REPORT OF THE COMMITTEE ON PHYSIOLOGIC ASSAY

Of the Philadelphia Branch of the American Pharmaceutical Association *

Dr. T. C. Githens, Dr. C. A. Hofer, Dr. John C. Scott, and Dr. H. C. Wood, Jr., Chairman

The Committee on Physiologic Assay of the Philadelphia Branch of the American Pharmaceutical Association has considered the advisability of introducing into the Pharmacopeia physiologic tests for the following drugs: apocynum, convallaria, digitalis, squill, strophanthus, aconite, gelsemium, lobelia, veratrum, cannabis, ergot, pepsin, suprarenals, thyroid, chenopodium, granatum, kousso, santonica, cimicifuga, gossypii cortex and phytolacca.

Cimicifuga, gossypii cortex and phytolacca seem of too little importance to require physiologic standardization.

The vermifuges—chenopodium, granatum, kousso and santonica—might, we believe, readily be standardized according to the method which was employed, in connection with the oil of chenopodium, by Brunning,[1] who determined the vermicidal effect on the intestinal worms obtained from the alimentary tract of dogs and cats. Inasmuch, however, as we are unaware of any application of this method for the purpose of standardization and as time was insufficient for experimental work on the part of the committee, we do not feel inclined to recommend the introduction of physiologic tests in connection with these drugs, although we would call the attention of the Committee on Revision of the Pharmacopeia to the possibility of such standardization.

Cannabis.—Two standards have been suggested for cannabis indica. That which is most frequently employed is the amount which is required to produce muscular incoordination in the dog. The other is the amount required to produce narcosis in the frog. As regards the second of these tests, the fact that cannabis indica is practically insoluble in water and that frogs are very susceptible to the action of alcohol seems to us to preclude its use. In regard to the first test, it has been the universal experience that there is a large variation in individual susceptibility in different dogs, so that to obtain results which are even approximately accurate it is necessary to use the same dog repeatedly. The prolonged use of the drug, however, appears to beget a certain amount of immunity toward it, so that one dog can be used for only a comparatively small number of tests. Even with the utmost precautions, the results are far from accurate. As it is impossible, on account of individual idiosyncrasies and the uncertainty of the final reaction, definitely to assign any dose and as the results are so inaccurate, we feel that until some more satisfactory means of standardizing cannabis indica has been suggested, no physiologic assay process should be introduced into the Pharmacopeia.

Ergot.—Another drug which urgently requires some method of standardization is ergot. The cock's-comb test, as has been shown by Edmunds and in our own experiments, is unreliable. Two other methods have been suggested for this purpose: one based on the activity of the drug on uterine muscle, and the other based on its effects on the circulation. Each of these methods requires either that the sample be compared to a standard preparation, or else that a considerable series of animals be employed for each test, and the average taken of the series. Against the method of comparing the effects with a standard preparation rises the almost insuperable obstacle of keeping a standard preparation on hand without deterioration. Our opposition, expressed in connection with digitalis, to any method of test for any drug which requires comparison with a standard preparation which cannot be made by any competent pharmaceutical chemist, applies still more strongly to ergot. The method of taking the average of a series makes the assay so expensive and so tedious as practically to preclude its use by any but the largest wholesale manufacturers. Moreover, there is at least a reason to hope that before the next edition of the Pharmacopeia appears, a satisfactory chemical test for this drug will have been devised. For these reasons we do not recommend the introduction of a physiologic standard for ergot.

Thyroid.—Thyroid gland does not in our opinion require physiologic standardization, as the work of Hunt has shown that the percentage of combined iodin is an accurate indicator of the quality of the drug, and we believe that wherever a chemical test is equally available it should be given the preference to a physiologic one.

Veratrum.—The one physiologic test for veratrum which, so far as our reading goes, has been suggested, is the quantity required to kill. As this substance contains a number of alkaloids which are quite different in their effect, we do not believe that such a test is of any great practical importance. Moreover, as the active principle of this drug is alkaloidal in nature, it would appear to us that a method of chemical standardization could be devised. We would call attention to the fact, however, that the total percentage of alkaloid is no indication of physiologic power of the drug, for, as has been shown by Eden,[2] the protoveratrin, which constitutes a comparatively small percentage of the alkaloidal content of the plant, is so much more powerful than any other principle that it practically dominates the action of the drug.

Aconite.—Although the Pharmacopeia directs that aconite should contain 0.5 per cent. of aconitin, yet the method described gives rather the total alkaloids of the drugs. The percentage of total alkaloids is by no means an accurate criterion of the activity of the specimen, since there are present in the crude drug at least two other alkaloids besides aconitin, which are greatly inferior in potency; therefore, the drug might assay comparatively high in alkaloid, but be of feeble physiologic power. We would recommend, therefore, the introduction of a physiologic standard for this remedy. E. R. Squibb suggested a method of physiologic standardization based on the power of aconite to cause tingling of the lips. A definite amount of the drug is rubbed with 1 c.c. of water and held in the mouth for one minute. This should cause a tingling of the lips, coming on in about twenty minutes and lasting about an hour. This test is unreliable, both because of the difference in susceptibility of different persons and because of the great variations in the susceptibility of the same individual on different days. The standard which we would suggest is based on the amount required to kill a given weight of animal within a period of twenty-four hours. The fact that guinea-pigs may be readily obtained and are so easily handled makes them the most available animals for this purpose.

We suggest the following standard:

> Aconite should be of such strength that it requires not less than 0.4 mg. or more than 0.5 mg. per gram of body weight to kill a guinea-pig when tested in the following manner:
>
> From the specimen to be tested, a fluidextract is made according to the official process. Four guinea-pigs are then carefully weighed and into two of them is injected beneath the skin of the abdomen an equivalent of 0.0004 gm. of aconite for each gram of the body weight, and into the other two is injected 0.0005 gm. per gram of body weight. If at the end of twelve hours the first two survive and the second two are dead, the drug is of satisfactory quality. If the first two die, it is too strong; if the second two survive, it is too weak. If one of either pair lives and the other dies, the test must be repeated.

Digitalis Group.—Apocynum, convallaria, digitalis, scilla and strophanthus are placed together by pharmacologists, as they have much the same physiologic actions. As there is no satisfactory method of chemical standardization for any of these drugs, the committee feels that the adoption of a physiologic method of assay would be advisable.

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* Read before Scientific Section of the Philadelphia Branch of the American Pharmaceutical Association, Nov. 10, 1910.

[1] Brunning: Ztschr. f. exper. Pharm. u. Therap., 1905, L, 80.

[2] Eden: Arch. f. exper. Path., xxix, 40.

Three types of test have been suggested for the standardization of these drugs: (1) the dose required to kill a warm-blooded animal, as the guinea-pig; (2) the amount required to produce the arrest of the heart of a frog in a given period of time; (3) the degree of elevation of blood-pressure in a warm-blooded animal. The last of these methods may be immediately excluded as being the least reliable of the three, and also the most complex technically. Concerning the choice between the first two methods, while recognizing that there are valid arguments in favor of each, we are inclined to prefer the test on the guinea-pig. It is true that in the study of Edmunds and Hale[3] the frog test appeared to be somewhat more accurate, showing in no case an error of more than 10 per cent. There are, however, two serious objections to the frog method as an official process of assay. In all of these frog tests a time limit has been given, and the various time limits have ranged from one to twenty-four hours. According to the author just quoted, the fatal dose for twelve hours is about three-fourths of that for one hour. It is evident that the difference between the dose required to kill in one hour and that required to kill in twelve hours is largely a question of the rapidity of absorption. Now it may easily be that a preparation which is highly active may, for some reason, be comparatively slowly absorbed, so that the one-hour test is not only of activity of the drug, but of absorbability, which manifestly is not the purpose of the assay.

Another objection which seems to us almost insurmountable is the great variation in the susceptibility of frogs. In the first place, it is a well-recognized fact that frogs of different species vary widely in their susceptibility to members of the digitalis group. It would, therefore, be essential to use always frogs of one species. This offers no trouble if the tests were to be carried out only in one part of the United States, but the species of frogs which are common in Maine are not found at all in California. The most widely distributed frog, the *Rana pipiens*, does not occur west of the Sierra Nevada. Not only do frogs of different species show variations in their susceptibility, but it is recognized that the season of the year influences this. According to a statement made by Dr. Hale in a discussion of this subject before the Philadelphia Branch of the American Pharmaceutical Association, this difference is due simply to the effects of temperature and can be overcome by working always in a room of certain temperature. We are not familiar, however, with any experimental proof of this statement, and it seems, *a priori*, improbable. Moreover, there is reason to believe that even the same species of frog varies according to the locality from which it is obtained. Dr. Donaldson of the Wistar Institute of Anatomy has found a marked difference in the relation of total-body weight to the weight of the central nervous system in frogs of the same species, obtained from different parts of the country. While this does not, of course, absolutely prove that there would be a difference in the susceptibility to digitalis, it necessitates at least a careful study of the comparative susceptibility of frogs of the same species from different regions, before it can be taken for granted that they will be the same.

The only method of overcoming these obstacles would seem to be by comparing the preparation tested with a standard preparation. We are convinced that such a method of standardization is undesirable for pharmacopeial purposes. It would necessitate a distribution either by the government or the Pharmacopeial Convention of a standard preparation, and although the experiments of Houghton indicate that tincture of strophanthus might be available for this purpose, such a standard would have to be tested almost continuously by the distributors and given out at comparatively short intervals. Chance deterioration in the standard might easily result in flooding the market with inferior preparations before the fact was discovered and corrected.

Guinea-pigs, on the other hand, are obtainable in all parts of the world. They are already used for standardization of various remedies, and their susceptibility to digitalis, so far as known, does not vary under ordinary conditions. Temperature, food, season, weight and sex do not influence their reaction. We therefore recommend the use of guinea-pigs for the determination of the physiologic activity of drugs of this group. As the methods of assay for all the members of this group are the same, we shall describe the test as applied to digitalis only.

> Digitalis should be of such strength that when tested in the following manner it shall require not less than 0.35 mg. or more than 0.40 mg. per gram of body weight to kill a guinea-pig in twelve hours.
>
> Method of Assay: From the sample to be tested a tincture shall be made according to the official process; four guinea-pigs are then carefully weighed, and into two of them an amount of the tincture corresponding to 0.35 mg. per grain of body weight is injected beneath the skin of the abdomen and into the other two a uantity equivalent to 0.40 mg. is injected. If both of the first pair survive and both of the last pair die, the drug is of satisfactory quality. If, however, both of the first pair die, the sample is too strong, or, if both of the second pair survive, too weak. If, of either pair, one survives and one dies, the test should be repeated.

Suprarenal.—If suprarenal glands remain official in the next revision of the Pharmacopeia, we believe that there should be some standard of strength introduced. As at present there is no chemical assay available, and as the physiologic test is one of the simplest of all pharmacologic experiments, we recommend the introduction of the following method for the physiologic assay of suprarenal glands.

> Suprarenal gland should be of such strength that 1 gm. injected intravenously into a dog shall produce a rise of mean blood-pressure within 10 mm. of that produced in the same animal by a dose of 0.001 gm. of the pure active principle when tested in the following manner:
>
> Method of Assay: A dog weighing between 5 and 15 kilograms is anesthetized by injecting hypodermically 0.08 gm. of morphin sulphate for each kilo of body weight, supplemented with the use of such quantity of ether as shall be necessary to prevent pain. One of the larger arteries, as the femoral or carotid, is then connected with a mercury manometer and the animal allowed to come from under the influence of the ether. No experiments should be begun until at least ten minutes have intervened after the withdrawal of the ether. At the end of this period, the normal pressure should be recorded for a period of at least ten minutes, and then a dose of 0.001 mg. of pure active principle for each kilo of body weight is injected intravenously and the blood-pressure observed for at least three minutes. At a period of not less than twenty minutes after the first injection, a dose of 1 mg. of the sample to be tested is injected in the same manner and the pressure observed again for ten minutes. Ten minutes after the injection of this sample a second dose of the pure active principle is to be injected. The elevation of the blood-pressure at the highest point reached after each injection above the pressure at the time the injection was made is then measured. The rise of blood-pressure which was produced by the second injection should be within 10 mm. of the average of the first and third injections.

MRS. PRICE'S CANNING COMPOUND

When the federal Food and Drugs Act went into effect, the use of certain chemical preservatives which had been proved injurious was prohibited in food-stuffs that entered into interstate commerce. One of these preservatives was boric acid. As the harmfulness of this chemical became generally known, housewives and others who had been in the habit of using it for preservative purposes abandoned it. It was then that unscrupulous exploiters of chemical preservatives took a leaf out of the note-book of "patent medicine" fakers and put on the market, under fanciful names, preserving compounds composed largely of boric acid, but giving no indication of the presence of this chemical.

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3. Edmunds and Hale: Hyg. Lab. Bull. No. 48.

Mrs. Price's Canning Compound is sold on the claim that it will "prevent canned fruits and vegetables from souring and spoiling" and that it "may be used in canning all kinds of fruits" and "in making catsup, sweet pickles or anything that is liable to ferment." The Kansas State Board of Health has published at different times the results of two independent analyses of this "compound." These indicated that the stuff varied in composition. In view of this fact and because inquiries have been received, another analysis was made of Mrs. Price's Canning Compound, in the Association laboratory. The report of the Association's chemists is as follows:

"Mrs. Price's Canning Compound, manufactured by the Price Compound Company, Minneapolis, Minn., as received in the Association laboratory, was contained in an envelope bearing the name of the preparation, the name and address of the manufacturer and directions for its use.

"The envelope contained about 30 gm. of a white powder, soluble in water, possessing a salty taste and having an odor of benzoic acid. Qualitative tests indicated the presence of borate, chlorid, benzoate and sodium. Further experiments and the quantitative estimations indicated that the constituents found existed as boric acid, sodium chlorid and benzoic acid (possibly in part as benzoate) corresponding to the following amounts:

Boric acid, 94.74 per cent.
Sodium chlorid, 4.71 per cent.
Benzoic acid (calculated from total benzoate), 0.40 per cent.

"While the first analysis (Bulletin Kansas State Board of Health, October, 1909, p. 267) showed that the preparation consisted entirely of commercial boric acid, the second examination (Bulletin Kansas State Board of Health, November, 1909, p. 282) showed that about 6 per cent. of the boric acid had been replaced by sodium chlorid. The present analysis shows that the composition has been again altered by the addition of a small amount of benzoic acid. For all practical purposes, these changes are unessential. The variability is evidently the result of carelessness in the manufacture or it is made with the idea of misleading and confusing."

The housewife who uses this mixture does so, of course, not knowing that the chemical she is putting into her foods has been declared injurious as a food preservative by the federal government. Neither does she realize that she is paying for what is essentially boric acid, worth 15 cents a pound, at the rate of $1.60 a pound.

Correspondence

The Philadelphia Idea as to Medical Teaching

To the Editor:—On several occasions within the last few years statements have been made in medical journals, here and abroad, to the effect that the medical schools of this country are not equipped with satisfactory opportunities for clinical teaching. Last spring, the president of Cornell University, when delivering an address which should have been carefully prepared, made the extraordinary statement that no medical school in this country, with the exception of Johns Hopkins, had a hospital completely under its control, and therefore adequately used for teaching purposes.

In the London *Lancet*, Feb. 4, 1911, its American correspondent in describing a proposed amalgamation between the medical department of Columbia University and the Presbyterian Hospital refers to this plan as the "Johns Hopkins idea." It goes without saying that those of us who know much of medical teaching hold the Johns Hopkins Medical Department in the highest esteem, but it is only proper that the facts be correctly stated. The object of this communication is to point out the fact (not so generally known as it should be) that every medical school in Philadelphia has as a part of its equipment a hospital, which exists, not as an affiliated institution, but as part and parcel of its teaching plant. As long ago as 1824, when Jefferson Medical College was founded, it established an out-patient service in order to give its students the advantage of clinical material under its own control; and in 1841, the medical department of the University of Pennsylvania did likewise. In 1873, Jefferson Medical College inaugurated its plans for a complete hospital, and this institution was opened Sept. 17, 1877, containing 160 beds. At about the same time the Hospital of the University of Pennsylvania went into active service. Three years ago, the new Jefferson Medical College Hospital, costing $1,250,000, was completed, containing 300 beds, and from time to time the university hospital has been considerably enlarged. As soon as it was started in 1881 the Medico-Chirurgical College established an out-patient department, and a few years afterward erected a hospital. The Woman's Medical College of Pennsylvania also has a hospital known as the Hospital of the Woman's Medical College. The Hahnemann Medical College also has its own hospital, and the medical department of Temple University, the youngest of the Philadelphia schools, has under its direct control the Samaritan Hospital.

It is interesting to note in this connection that all of these hospitals are under the control of the same boards of trustees that govern the institutions in which the students matriculate for the purpose of studying medicine, and in the Jefferson Medical College, in the University Medical Department and in the Medico-Chirurgical College members of the faculty who teach in the practical branches are by virtue of their professorial chairs in actual control of and on duty in the wards. In other words, to be elected professor of medicine, therapeutics, or surgery in Jefferson Medical College means that a man is thereby elected physician or surgeon to the Jefferson Medical College Hospital. The relationship is therefore a matter of absolute control and not of friendly affiliation, and by this means only can satisfactory medical teaching in a medical school be accomplished. If, therefore, the principle of having an active hospital as a part of a thoroughly equipped medical school is to be given a specific name it should be called the "Jefferson Medical College idea" or the "Philadelphia idea" and not the "Johns Hopkins idea."

As a matter of fact, barring the Johns Hopkins Hospital; there is, I believe, no medical school in the United States so thoroughly equipped with hospital facilities under its own control as the Philadelphia medical teaching institutions, all of which have their hospitals, with exception of Temple College, side by side with the medical school buildings. All of these institutions have in addition the opportunity of teaching their students in large hospitals which are thrown open to all the schools, such as the Pennsylvania and Philadelphia Hospitals, for example. In other words, the Philadelphia schools have all the benefits of unattached hospitals possessed by institutions elsewhere in addition to the ownership and control of their own hospitals.

As a matter of historical fact, Jefferson Medical College was the first medical institution in America to establish clinical teaching, and all its sister institutions in Philadelphia, with which it dwells in the most cordial friendship, have followed its example.

H. A. HARE, M.D., Philadelphia.
Professor of Therapeutics, and Physician to the Jefferson Medical College Hospital.

Card System of Dairy Inspection

To the Editor:—I notice with much interest an editorial in THE JOURNAL, Jan. 14, 1911, p. 124, relative to the score-card system of dairy inspection, which you commend, but say that it needs "further elaboration." I shall be much interested in seeing your comments on the card and getting your ideas on the same. Possibly a few words relative to the history and development of the standard card now in use may be helpful to you and of interest. The first score-card which I ever saw allowed 500 points and handed out blocks of twenty-five to thirty-five for different items. It soon became evident that such a card, as you say, needed "further elaboration;" that if twenty-five points were allowed, for instance, for "Cleanliness of the Stable," there would be a chance for very wide differences in the score; so that from time to time we have revised the score-card until we have evolved the one which we recommend, and every revision has been along the line of this "further elaboration." The one which we are using now has the endorsement of the National Association of Official Dairy Instructors, but when we print more of them two items at least will receive, doubtless, further elaboration. The eight points allowed for "Cleanliness of Cows" will be subdivided into minor items, as will be the six points for "Condition of Stable," "Air at Milking Time," giving a part of the allowance for "Clean Bedding," a part for "Freedom from Dust," and a part for "Freedom from Odors." Our experience has shown us that the more the card is elaborated the better it is, and the present card is the result of years of experience and development along that line.

GEORGE M. WHITAKER,
In Charge, Market Milk Section, Dairy Division.
U. S. Dept. Agriculture, Bureau of Animal Industry.

[COMMENT:—Editorial reference to this subject is made in this issue.—ED.]

Peccavimus!

To the Editor:—I have been frequently amused by the quality of medical erudition displayed by the daily and weekly newspapers; especially by the "Clippings from Lay Exchanges" in THE JOURNAL. But are we not the goat of the Roman fable, standing on the roof of a house and ridiculing the wolf passing below, when our great JOURNAL, the English of which is so polished and the proofreading so nearly perfect, prints (Feb. 11, 1911, p. 443) Latin like this: "M. fiat pilulam"? Should the author of such Latin take up his long-neglected "Commentarii Cæsaris de Bello Gallico" and find such a distortion of case-endings he would certainly be puzzled if he made an effort to convert it into English.

CHARLES H. HIGGINS, Zanesville, O.

[COMMENT:—We wish here to acknowledge other letters on this subject and to admit that our correspondent's severity is not misplaced. The error cited is, of course, a shocking one. We desire, however, to exculpate completely Dr. Bolenius, who furnished the prescriptions. We can only plead guilty of an inexplicable blunder, and throw ourselves on the mercy of the court. Those of our readers who have had any experience with the treachery of types will perhaps be lenient. If Argus had had brains to match his hundred eyes, he would have been just the man we want on our staff. Evidently, however, we have the next best thing— a corps of readers whose collective erudition and interest in maintaining the standard of THE JOURNAL are so great that any oversight of ours is sure to be brought to our attention in the next mail.—ED.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MARSDEN'S PASTE

To the Editor:—Who was the originator of Marsden's paste? Who is or was Marsden? Please give the percentage of epitheliomas cured by it.

I have had excellent success in one case of epithelioma of the bridge of the nose and toward the inner canthus of the left eye with this paste. But a man of 80 presented himself with an extended growth reaching within quarter of an inch of the margin of the lower eyelid, and I have put him off, hardly daring to do anything. Any suggestion will be thankfully received. . If Marsden's paste is a good treatment, why is it not emphasized more?

A. I. LOVELL, M.D., Graysville, Tenn.

ANSWER.—Alexander Marsden originated this paste. He was a London surgeon who had a large experience in cancer in the London Cancer Hospital. His paste was introduced in an article, "A New and Successful Mode of Treating Cancer," published in London in 1867. It has always been highly regarded and widely used by a few men, but, like all other caustic methods of treating epitheliomas, it has suffered from the prejudice against caustics. It is a valuable method of treatment in properly selected cases. Its use, with that of other caustics, is considered in detail in THE JOURNAL, Nov. 5, 1910, p. 1611, in the article by Dr. W. A. Pusey on "Treatment of Malignant Growths of the Skin from a Dermatologist's Standpoint."

No reliable statistics are possible as to the percentage of cures obtained with it. Success depends on its thorough application in properly selected cases—that is, in cases in which the growth can be entirely destroyed. Daniel Lewis says that 99 per cent. of epitheliomas of the skin are curable if taken in time.

SPENGLER'S IMMUNE BODIES—I K .

To the Editor:—1. What is the Carl Spengler immune blood or antitoxin? 2. Where can it be obtained? 3. What results have been obtained from its use in tuberculosis?

JOSEPH PESTAL, M.D., Pearce, Ariz.

ANSWER.—1. Carl Spengler's immune bodies—I K—are derived from the red blood-corpuscles of the blood of animals immunized against the tubercle bacillus. The material is said to be extracted in such a way that the immune bodies are removed in a state of comparative purity, free from albumin and blood-coloring matter. The theory of Spengler, on which the preparation is based, is that the red blood-corpuscles are the source of the immunizing substance produced by the organism in tuberculosis.

2. The preparation is made by Spengler, of Davos, Switzerland, and is put on the market by Kalle & Co., Biebrich a. Rh., Germany. It has been used to a considerable extent in Germany, but, as we understand, it cannot be imported into this country legally because the firm which manufactures it has not a license for the manufacture of serums, antitoxins, tuberculins, etc., which is required by the United States government before such products can be imported into this country. A list of licensed manufacturers appeared in *Public Health Reports*, Feb. 10, 1911.

3. Many favorable reports of the action of this preparation in tuberculosis have appeared in the literature, while other clinicians have found it of little or no value. Further experience will be necessary before a positive opinion can be expressed.

TREATMENT OF GEOGRAPHICAL TONGUE

To the Editor:—Can you give me a remedy for a disease which is commonly known as "geographical tongue?" This is mentioned in Stelw [illegible] e Skin," on pp. 1086-89, under the heading of [illegible] laques of the Tongue," and is given the follow [illegible] areata linguæ, pityriasis linguæ, wandering [illegible] patches of the tongue, Muller's superficial [illegible]

I have under treatment a chronic case which has existed for about ten years; the patient is over 65 years of age and has no syphilitic taint. I have tried a number of antiseptics and other remedies, but I find them of very little use and would be grateful if you can suggest some remedy.

J. F. NAGLE, M.D., New York City.

ANSWER.—There is no satisfactory treatment for geographical tongue. Its etiology is not known, so the treatment is entirely empirical. The use of bland antiseptic mouth washes, such as a solution of hydrogen peroxid, and painting with a bland varnish, such as tincture of myrrh, are recommended. A few paintings with tincture of iodin at intervals of at least three or four days may serve to remove it either by stimulating the surface or by acting as an antiseptic. The condition is rare in the old and a careful differential diagnosis, should be made from leukoplakia, in which stimulating remedies like tincture of iodin are not indicated.

USE OF MERCURY CYANID OR OXYCYANID AS AN ANTISEPTIC

To the Editor:—Can you give me any references to literature concerning cyanid or oxycyanid of mercury as an antiseptic?

C. S. OAKMAN, *Detroit*

ANSWER.—Cyanid and oxycyanid of mercury are described in New and Nonofficial Remedies, pages 126 and 127, and in the British Pharmaceutical Codex. These authorities state that these salts have an antiseptic and disinfectant power similar to mercuric chlorid. The bactericidal value of mercuric oxycyanid is given by Lehmann (*Oesterr. Ztg.*, 1903, 851; abstracted in the Proceedings of the American Pharmaceutical Association, 1904, lii, 795) as equal to that of mercuric chlorid. Doubt is thrown on the antiseptic value of mercuric oxycyanid by K. Holdermann, who cites the experiments of B. Köhler in a thesis published at Marburg in 1905 (*Arch. d. Pharm.*, 243, No. 9, 1905, 673; abstracted in the Proceedings of the American Pharmaceutical Association, 1906, liv, 828)

MEDICAL MISSIONARY SERVICE

To the Editor:—Whom may one address to apply for foreign missionary medical service? F. S. MARNELL, Nebraska City, Neb.

ANSWER.—The first and most natural procedure for a person who wishes to take up foreign medical missionary work is to communicate with the foreign board or society of the particular denomination in which he or she is already a member or regular attendant. There is, however, what might be called a clearing house for all denominations, and the secretary of this body recently sent an interesting letter to THE JOURNAL, which will be found in the issue of Dec. 3, 1910, page 1997. Mr. W. B. Smith, 125 East Twenty-Seventh Street, New York City, is candidate secretary of the Student Volunteer Movement for Foreign Missions.

REMOVAL OF ADHESIVE PLASTER

To the Editor:—Dr. Beardsley, in THE JOURNAL, January 28, suggests the use of oil of wintergreen in removing adhesive plaster. A cheaper and often more accessible article is ether.

To remove the plaster raise from one-eighth to one-fourth inch of one end of the adhesive strap before applying the ether, then, with a medicine dropper, apply ether to the skin a drop at a time, and the plaster will almost fall off by its own weight. It is necessary to be careful not to separate the cloth from the adhesive material in starting or else the ether will follow this plane, removing the cloth only. J. SCOTT BROWN, M.D., Burnett, Wis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 18, 1911.

Millikin, John D., D.S., granted leave of absence for two months, to take effect on arrival at San Francisco.

Moncrief, William H., captain, assignment to duty at Fort Riley, Kan., revoked, and instead ordered to Fort Leavenworth, Kan.

Graham, George D., D.S., orders so amended as to relieve him from duty at Fort Shafter, H. T., to take effect on the arrival at Honolulu of the transport leaving San Francisco about July 5, and to direct him to proceed on that transport to Manila, P. I., and report for assignment to duty.

Coffin, Jacob M., captain, granted three months' leave of absence, to take effect on his relief from duty in the Philippines division; permission to return to the United States via Europe.

Wing, F. F., D.S., reports his arrival at Fort Des Moines, Iowa, for temporary duty.

Pinkston, O. W., captain, reports in field with 4th Cavalry, camp at Washington Park, El Paso, Texas.

Millikin, John D., D.S., relieved from duty in the Philippines division and will proceed from Manila, P. I., about August 15, 1911, to San Francisco for orders.

Page, Henry, major, granted four months' leave of absence, to take effect on his relief from duty in the Philippines division, with permission to go beyond the seas.

McLaughlin, William F., M.R.C., granted leave of absence for one month and four days.

Blair, Faris M., M.R.C., granted twenty-three days' leave of absence.

Underwood, Gordon B., M.R.C., granted twenty-three days' leave of absence.

Delacroix, A. C., M.R.C., reported for temporary duty at Fort Columbia, Wash.; left Boise Barracks, Idaho, February 8.

Bierbower, H. C., M.R.C., reports arrival at Columbus, N. Mex., with Troop C, 4th Cavalry.

Maloney, James E., M.R.C., ordered to proceed to Fort Lawton, Wash., for temporary duty.

Campbell, George F., M.R.C., relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to station, Fort Wingate, N. Mex.

Scott, Harold O., D.S., orders for annulment of contract revoked Will proceed, at the expiration of his leave of absence, to the Army General Hospital, San Francisco, for duty. Dental Surgeon Scott will stand relieved from duty at that hospital and will proceed to the Philippine Islands for duty on transport sailing from San Francisco about April 5, 1911.

Moncrief, William H., captain, granted thirty days' leave of absence.

Carr, William B., lieut., ordered to proceed from Fort Monroe, Va., to Fort Sam Houston, Texas, for temporary duty.

Delacroix, relieved from duty at Boise Barracks, Idaho, and assigned to duty at Fort Columbia, Wash.

Roberts, William M., major, ordered to Fort Oglethorpe, Ga., for temporary duty.

Bourke, James, captain, directed to proceed to Fort Crockett, Texas, for duty about April 10, insted of March 10, 1911.

Woodall, William P., captain, honorably discharged from the service of the U. S.

Williamson, L. P., lieut., assigned to duty with Co. I, Signal Corps, for field service in Arizona.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 18, 1911.

Farwell, W. G., P. A. surgeon, detached from the naval station, Guantanamo, Cuba, and ordered to the *South Carolina*.

Riddick, W. J., asst.-surgeon, detached from the *South Carolina* and ordered to the naval station, Guantanamo, Cuba.

Hibbett, C. T., medical director, detached from the navy yard, Norfolk, Va., and ordered to command the naval hospital, Norfolk, Va.

Du Bose, W. R., medical director, detached from command of the naval hospital, Norfolk, Va., and ordered to duty as member of the naval examining and naval medical examining boards, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 15, 1911.

Guiteras, G. M., surgeon, granted nine days' leave of absence from Feb. 1, 1911, on account of sickness.

Young, G. B., surgeon, detailed to represent the service at the annual conference on medical education and legislation of the American Medical Association, at Chicago, March 1-3, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed to Erie, via Harrisburg, Pa., on special temporary duty.

Warren, B. S., P. A. surgeon, granted seven days' leave of absence from Jan. 4, 1911.

Manning, H. M., P. A. surgeon, directed to proceed to the New Orleans quarantine station, Quarantine, La., and report to the medical officer in command, for duty and assignment to quarters.

Pettyjohn, Joseph, P. A. surgeon, directed to proceed to Boston and report to the medical officer in command for duty and assignment to quarters.

Lyon, R. H., asst.-surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Stiles, C. W., professor of zoology, detailed to attend a conference on the hook-worm disease to be held at Atlanta, Ga., Feb. 14-15, 1911.

Hunt, Reid, professor of pharmacology, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, at Chicago, Feb. 17, 1911.

Thompson, W. R. P., A. A. surgeon, directed to proceed to Salina Cruz, Mexico, on special temporary duty.

Walkley, W. S., A. A. surgeon, granted seven days' leave of absence from Feb. 10, 1911.

Wood, J. E., A. A. surgeon, granted fifteen days' leave of absence from Feb. 9, 1911.

Wright, F. T., A. A. surgeon, granted thirty days' leave of absence from Feb. 6, 1911.

Motter, M. G., technical assistant, detailed to represent the service at the meeting of the National Confederation of State Medical Examining and Licensing Boards, at Chicago, Feb. 28, 1911.

Wilbert, M. I., technical assistant, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, at Chicago, Feb. 17, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Senator Owen Introduces New Health Bill

The Hon. Robert L. Owen has introduced the following bill as a substitute for the bill introduced last year providing for a National Department of Health:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That there shall be at the seat of government an executive department to be known as the Department of Health, and a Secretary of Health, who shall be the head thereof, who shall be appointed by the President, by and with the advice and consent of the Senate, who shall receive a salary of $12,000 per annum, and whose term and tenure of office shall be like that of the heads of the other executive departments; and Section 158 of the Revised Statutes is hereby amended to include such department, and the provisions of Title 4 of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The said secretary shall cause a seal of office to be made for the said department, of such device as the President shall approve, and judicial notice shall be taken of said seal.

SEC. 2. That there shall be in said department an assistant
to the secretary, [illegible] and designated as director-general,
who shall be a [illegible] physician and a skilled sanitarian,
to be appointe [illegible] by and with the advice
and consent [illegible] receive a salary of
$7,500 per ann [illegible] ure of office shall
be for six [illegible] uties as shall be
prescribed by [illegible] There shall
also be one chi [illegible] other
clerical assist [illegible]
by Congress. A
ments shall rec
incidental [illegible]
[illegible] bureau
the
C

transferred to the Department of Health by executive order, as is provided for by this act, and to all other business within the jurisdiction of the Department of Health, and shall certify the balance arising thereon to the Division of Bookkeeping and Warrants, and send forthwith a copy of each certificate to the Secretary of Health.

SEC. 3. That it shall be the province and duty of said department to foster and promote, by inquiries or otherwise, and develop all matters pertaining to the public health; to collect and diffuse information relating to or affecting the public health; to advise the several departments of the government, the executives of the several states and territories, and all the health authorities of the several states and territories and the District of Columbia and the dependencies on all matters pertaining to the public health, when in his opinion such advice may tend to the preservation and improvement of the health of the people, to secure the best sanitary condition of vessels, their cargoes, passengers, and crews, from foreign and domestic ports; to prevent the introduction of contagious and infectious diseases into the United States and their spread from any state or territory or the District of Columbia; on request of the executive of any state or territory or the District of Columbia to cooperate with and aid state, territorial, district, and municipal health authorities in the execution and enforcement of such needful rules and regulations as are deemed by him necessary to suppress or prevent the spread of contagious and infectious diseases; and, in general, the Department of Health shall be the medium through which the government shall adopt such measures or take such action as will most effectually protect and promote the health of the people of the United States and its dependencies.

SEC. 4. That the office of the surgeon-general of the Public Health and Marine-Hospital Service and the corps of officers and personnel of the Public Health and Marine-Hospital Service, now and heretofore under the jurisdiction of the department of the Treasury, be, and the same hereby are, transferred from the Department of the Treasury to the Department of Health, and the same hereafter shall remain under the jurisdiction and supervision of the last-named department; and that the chief of and the Bureau of Vital Statistics of the Census Office, and all that pertains to the same, be, and the same hereby are, transferred from the Department of Commerce and Labor to the Department of Health and henceforth shall remain under the jurisdiction and supervision of the latter; and the following-named bureaus of the Department of Agriculture: that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors and engaged in the enforcement of the Act of Congress approved June 30, 1906, the chief of the bureau and all that pertains thereto, and that part of the Bureau of Animal Industry charged with the inspection of live cattle and hogs and carcasses and products thereof which are subjects of interstate and foreign commerce, the chief of the bureau and all of said bureau which pertains thereto, be, and the same hereby are, transferred to the Department of Health, and the same hereafter shall remain under the jurisdiction and supervision of the last-named department.

SEC. 5. That all the duties, powers, authority, and jurisdiction, whether supervisory, appellate, or otherwise, now imposed on the Secretary of the Treasury by acts of Congress relating to the Public Health and Marine-Hospital Service, to the enforcement of quarantine, and for the suppression of epidemic diseases; and now imposed on the Secretary of Commerce and Labor by acts of Congress, relating to the Bureau of Vital Statistics of the Census Office; and now imposed on the Secretary of Agriculture by acts of Congress, relating to that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors and engaged in the enforcement of the aforesaid Act of June 30, 1906, and relating to that part of the Bureau of Animal Industry charged with the inspection of live cattle and hogs and carcasses and products thereof, shall be, and the same hereby are, transferred to and imposed and conferred on the Secretary of Health.

SEC. 6. That the Secretary of Health is hereby given power and authority to rearrange the work of the bureaus and offices confided to said department, and to consolidate the statistical bureaus and offices, and the Secretary of Health shall also have authority to call on other departments of the government for statistical information so obtained in such manner as to him may seem wise. That the official records and papers now on file in and pertaining exclusively to the business of any bureau, office, department, or branch of the public service in this act transferred to the Department of Health, together with the furniture now in use in such bureau, office, or department, or branch of the public service, shall be, and hereby are, transferred to the Department of Health.

SEC. 7. That the President be, and hereby is, authorized by order in writing, to transfer at any time the whole or part of any office, bureau, division, or other branch of the public service engaged in statistical or scientific work which relates to and is germane to the public health to the Department of Health, except those of the Department of War and the Navy, and in every such case the duties and authority performed by and conferred by law on such office, bureau, division, or other branch of the public service, or part thereof, which is transferred, and all the power and authority conferred by law, both supervisory and appellate, on the department from which such transfer is made, or the secretary thereof, in relation to said office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall immediately, when such transfer is ordered by the President, be fully conferred on and vested in the Department of Health or the secretary thereof, as the case may be, as to the whole or part of such office, bureau, division, or any branch of the public service so transferred.

SEC. 8. That there shall be an advisory board for the Department of Health. Said board shall consist of three competent experts, to be detailed from the Army, Navy, and the Bureau of Animal Industry by the Surgeon-General of the Army, the Surgeon-General of the Navy, and the Secretary of Agriculture, and one versed in law to be detailed from the Department of Justice by the Attorney-General, respectively (which experts, together with the chiefs of the bureaus of the Department of Health, shall be *ex officio* members of the board, and serve without additional compensation), and eight other members who shall be appointed by the Secretary of Health, who shall be competent experts, and not in the regular employment of the government. The said eight members shall each receive compensation of $20 per diem while serving in conference, as aforesaid, together with allowance for actual and necessary traveling expenses and hotel expenses while in conference. The term of service of the eight members of said board not in the regular employment of the government, first appointed, shall be so arranged that two of said members shall retire each year, and subsequent appointments shall be for six years. Appointments to fill vacancies occurring in a manner other than as above provided shall be made for the unexpired term of the member whose place has become vacant. The duties of said board shall be to consult with the secretary relative to investigati[illegible] in the department and the methods of [illegible], to formulate, for the secretary's approval, the rules and regulations to be observed in maritime and interstate quarantine, to formulate opinions on subjects referred to it by the secretary, and to participate in conferences held by the Secretary of Health with the health authorities of states and territories and the District of Columbia; and so much of the act approved July 1, 1902, which relates to an advisory board for the Hygienic Laboratory is hereby repealed.

SEC. 9. That the Secretary of Health shall call an annual conference of the health authorities of all the states and territories and the District of Columbia, said conference to be held in the city of Washington, and each of the said states, territories, and the District of Columbia shall be entitled to send one delegate from its health department. And each delegate from said state or territory or the District of Columbia so attending a conference called by the Secretary of Health shall be entitled to receive an allowance for actual and necessary traveling expenses and hotel expenses, not exceeding five days, exclusive of days necessarily spent in travel: *Provided*, That when, in the opinion of the Secretary of Health, the interests of the public health would be promoted by a conference of one or more health authorities of states and territories with himself, he may invite such states and territories as he may deem necessary to send one delegate from each of the health departments to participate in such conference: *And provided further*, That it shall be the duty of the Secretary of Health to call a conference on application of not less than five state or territorial boards of health, and each of said states and territories and the District of Columbia joining in such request shall be entitled to send one delegate.

SEC. 10. That the Secretary of Health, after conference with the advisory board, may cause investigations to be made into the nature, origin, and prevention of contagious and infectious diseases, epidemics, and other diseases, in the

MEDICAL MISSIONARY SERVICE

To the Editor:—Whom may one address to apply for foreign missionary medical service? F. S. Marnell, Nebraska City, Neb.

Answer.—The first and most natural procedure for a person who wishes to take up foreign medical missionary work is to communicate with the foreign board or society of the particular denomination in which he or she is already a member or regular attendant. There is, however, what might be called a clearing house for all denominations, and the secretary of this body recently sent an interesting letter to The Journal, which will be found in the issue of Dec. 3, 1910, page 1997. Mr. W. B. Smith, 125 East Twenty-Seventh Street, New York City, is candidate secretary of the Student Volunteer Movement for Foreign Missions.

REMOVAL OF ADHESIVE PLASTER

To the Editor:—Dr. Beardsley, in The Journal, January 28, suggests the use of oil of wintergreen in removing adhesive plaster. A cheaper and often more accessible article is ether.

To remove the plaster raise from one-eighth to one-fourth inch of one end of the adhesive strap before applying the ether, then, with a medicine dropper, apply ether to the skin a drop at a time, and the plaster will almost fall off by its own weight. It is necessary to be careful not to separate the cloth from the adhesive material in starting or else the ether will follow this plane, removing the cloth only. J. Scott Brown, M.D., Burnett, Wis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 18, 1911.

Millikin, John D., D.S., granted leave of absence for two months, to take effect on arrival at San Francisco.

Moncrief, William H., captain, assignment to duty at Fort Riley, Kan., revoked, and instead ordered to Fort Leavenworth, Kan.

Graham, George D., D.S., orders so amended as to relieve him from duty at Fort Shafter, H. T., to take effect on the arrival at Honolulu of the transport leaving San Francisco about July 5, and to direct him to proceed on that transport to Manila, P. I., and report for assignment to duty.

Coffin, Jacob M., captain, granted three months' leave of absence, to take effect on his relief from duty in the Philippines division; permission to return to the United States via Europe.

Wing, F. F., D.S., reports his arrival at Fort Des Moines, Iowa, for temporary duty.

Pinkston, O. W., captain, reports in field with 4th Cavalry, camp at Washington Park, El Paso, Texas.

Millikin, John D., D.S., relieved from duty in the Philippines division and will proceed from Manila, P. I., about August 15, 1911, to San Francisco for orders.

Page, Henry, major, granted four months' leave of absence, to take effect on his relief from duty in the Philippines division, with permission to go beyond the seas.

McLaughlin, William F., M.R.C., granted leave of absence for one month and four days.

Blair, Faris M., M.R.C., granted twenty-three days' leave of absence.

Underwood, Gordon B., M.R.C., granted twenty-three days' leave of absence.

Delacroix, A. C., M.R.C., reported for temporary duty at Fort Columbia, Wash.; left Boise Barracks, Idaho, February 8.

Bierbower, H. C., M.R.C., reports arrival at Columbus, N. Mex., with Troop C, 4th Cavalry.

Maloney, James E., M.R.C., ordered to proceed to Fort Lawton, Wash., for temporary duty.

Campbell, George F., M.R.C., relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to station, Fort Wingate, N. Mex.

Scott, Harold O., D.S., orders for annulment of contract revoked. Will proceed, at the expiration of his leave of absence, to the Army General Hospital, San Francisco, for duty. Dental Surgeon Scott will stand relieved from duty at that hospital and will proceed to the Philippine Islands for duty on transport sailing from San Francisco about April 5, 1911.

Moncrief, William H., captain, granted thirty days' leave of absence.

Carr, William B., lieut., ordered to proceed from Fort Monroe, Va., to Fort Sam Houston, Texas, for temporary duty.

Delacroix, relieved from duty at Boise Barracks, Idaho, and assigned to duty at Fort Columbia, Wash.

Roberts, William M., major, ordered to Fort Oglethorpe, Ga., for temporary duty.

Bourke, James, captain, directed to proceed to Fort Crockett, Texas, for duty about April 10, insted of March 10, 1911.

Woodall, William P., captain, honorably discharged from the service of the U. S.

Williamson, L. P., lieut., assigned to duty with Co. I, Signal Corps, for field service in Arizona.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 18, 1911.

Farwell, W. G., P. A. surgeon, detached from the naval station, Guantanamo, Cuba, and ordered to the *South Carolina*.

Riddick, W. J., asst.-surgeon, detached from the *South Carolina* and ordered to the naval station, Guantanamo, Cuba.

Hibbett, C. T., medical director, detached from the navy yard, Norfolk, Va., and ordered to command the naval hospital, Norfolk, Va.

Du Bose, W. R., medical director, detached from command of the naval hospital, Norfolk, Va., and ordered to duty as member of the naval examining and naval medical examining boards, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Feb. 15, 1911.

Guiteras, G. M., surgeon, granted nine days' leave of absence from Feb. 1, 1911, on account of sickness.

Young, G. B., surgeon, detailed to represent the service at the annual conference on medical education and legislation of the American Medical Association, at Chicago, March 1-3, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed to Erie, via Harrisburg, Pa., on special temporary duty.

Warren, B. S., P. A. surgeon, granted seven days' leave of absence from Jan. 4, 1911.

Manning, H. M., P. A. surgeon, directed to proceed to the New Orleans quarantine station, Quarantine, La., and report to the medical officer in command, for duty and assignment to quarters.

Pettyjohn, Joseph, P. A. surgeon, directed to proceed to Boston and report to the medical officer in command for duty and assignment to quarters.

Lyon, R. H., asst.-surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Stiles, C. W., professor of zoology, detailed to attend a conference on the hook-worm disease to be held at Atlanta, Ga., Feb. 14-15, 1911.

Hunt, Reid, professor of pharmacology, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, at Chicago, Feb. 17, 1911.

Thompson, W. R. P., A. A. surgeon, directed to proceed to Salina Cruz, Mexico, on special temporary duty.

Walkley, W. S., A. A. surgeon, granted seven days' leave of absence from Feb. 10, 1911.

Wood, J. E., A. A. surgeon, granted fifteen days' leave of absence from Feb. 9, 1911.

Wright, F. T., A. A. surgeon, granted thirty days' leave of absence from Feb. 6, 1911.

Motter, M. G., technical assistant, detailed to represent the service at the meeting of the National Confederation of State Medical Examining and Licensing Boards, at Chicago, Feb. 28, 1911.

Wilbert, M. I., technical assistant, detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, at Chicago, Feb. 17, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Senator Owen Introduces New Health Bill

The Hon. Robert L. Owen has introduced the following bill as a substitute for the bill introduced last year providing for a National Department of Health:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That there shall be at the seat of government an executive department to be known as the Department of Health, and a Secretary of Health, who shall be the head thereof, who shall be appointed by the President, by and with the advice and consent of the Senate, who shall receive a salary of $12,000 per annum, and whose term and tenure of office shall be like that of the heads of the other executive departments; and Section 158 of the Revised Statutes is hereby amended to include such department, and the provisions of Title 4 of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The said secretary shall cause a seal of office to be made for the said department, of such device as the President shall approve, and judicial notice shall be taken of said seal.

Sec. 2. That there shall be in said department an assistant to the secretary, known and designated as director-general, who shall be a competent physician and a skilled sanitarian, to be appointed by the President, by and with the advice and consent of the Senate, who shall receive a salary of $7,500 per annum, and whose term and tenure of office shall be for six years. He shall perform such duties as shall be prescribed by the secretary or required by law. There shall also be one chief clerk, and a disbursing clerk and such other clerical assistants as may from time to time be authorized by Congress. And the auditor for the state and other departments shall receive and examine all accounts of salaries, and incidental expenses of the office of the Secretary of Health and of all bureaus and offices under his direction, all accounts relating to the Public Health and Marine-Hospital Service, the Bureau of Chemistry, the Bureau of Vital Statistics, the Bureau of Meat Inspection, or other bureaus which may be transferred to the Department of Health by executive order, as is provided for by this act, and to all other business within the jurisdiction of the Department of Health, and shall certify the balance arising thereon to the Division of Bookkeeping and Warrants, and send forthwith a copy of each certificate to the Secretary of Health.

SEC. 3. That it shall be the province and duty of said department to foster and promote, by inquiries or otherwise, and develop all matters pertaining to the public health; to collect and diffuse information relating to or affecting the public health; to advise the several departments of the government, the executives of the several states and territories, and all the health authorities of the several states and territories and the District of Columbia and the dependencies on all matters pertaining to the public health, when in his opinion such advice may tend to the preservation and improvement of the health of the people, to secure the best sanitary condition of vessels, their cargoes, passengers, and crews, from foreign and domestic ports; to prevent the introduction of contagious and infectious diseases into the United States and their spread from any state or territory or the District of Columbia; on request of the executive of any state or territory or the District of Columbia to cooperate with and aid state, territorial, district, and municipal health authorities in the execution and enforcement of such needful rules and regulations as are deemed by him necessary to suppress or prevent the spread of contagious and infectious diseases; and, in general, the Department of Health shall be the medium through which the government shall adopt such measures or take such action as will most effectually protect and promote the health of the people of the United States and its dependencies.

SEC. 4. That the office of the surgeon-general of the Public Health and Marine-Hospital Service and the corps of officers and personnel of the Public Health and Marine-Hospital Service, now and heretofore under the jurisdiction of the department of the Treasury, be, and the same hereby are, transferred from the Department of the Treasury to the Department of Health, and the same hereafter shall remain under the jurisdiction and supervision of the last-named department; and that the chief of and the Bureau of Vital Statistics of the Census Office, and all that pertains to the same, be, and the same hereby are, transferred from the Department of Commerce and Labor to the Department of Health and henceforth shall remain under the jurisdiction and supervision of the latter; and the following-named bureaus of the Department of Agriculture: that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors and engaged in the enforcement of the Act of Congress approved June 30, 1906, the chief of the bureau and all that pertains thereto, and that part of the Bureau of Animal Industry charged with the inspection of live cattle and hogs and carcasses and products thereof which are subjects of interstate and foreign commerce, the chief of the bureau and all of said bureau which pertains thereto, be, and the same hereby are, transferred to the Department of Health, and the same hereafter shall remain under the jurisdiction and supervision of the last-named department.

SEC. 5. That all the duties, powers, authority, and jurisdiction, whether supervisory, appellate, or otherwise, now imposed on the Secretary of the Treasury by acts of Congress relating to the Public Health and Marine-Hospital Service, to the enforcement of quarantine, and for the suppression of epidemic diseases; and now imposed on the Secretary of Commerce and Labor by acts of Congress, relating to the Bureau of Vital Statistics of the Census Office; and now imposed on the Secretary of Agriculture by acts of Congress, relating to that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors and engaged in the enforcement of the aforesaid Act of June 30, 1906, and relating to that part of the Bureau of Animal Industry charged with the inspection of live cattle and hogs and carcasses and products thereof, shall be, and the same hereby are, transferred to and imposed and conferred on the Secretary of Health.

SEC. 6. That the Secretary of Health is hereby given power and authority to rearrange the work of the bureaus and offices confided to said department, and to consolidate the statistical bureaus and offices, and the Secretary of Health shall also have authority to call on other departments of the government for statistical information so obtained in such manner as to him may seem wise. That the official records and papers now on file in and pertaining exclusively to the business of any bureau, office, department, or branch of the public service in this act transferred to the Department of Health, together with the furniture now in use in such bureau, office, or department, or branch of the public service, shall be, and hereby are, transferred to the Department of Health.

SEC. 7. That the President be, and hereby is, authorized by order in writing, to transfer at any time the whole or part of any office, bureau, division, or other branch of the public service engaged in statistical or scientific work which relates to and is germane to the public health to the Department of Health, except those of the Department of War and the Navy, and in every such case the duties and authority performed by and conferred by law on such office, bureau, division, or other branch of the public service, or part thereof, which is transferred, and all the power and authority conferred by law, both supervisory and appellate, on the department from which such transfer is made, or the secretary thereof, in relation to said office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall immediately, when such transfer is ordered by the President, be fully conferred on and vested in the Department of Health or the secretary thereof, as the case may be, as to the whole or part of such office, bureau, division, or any branch of the public service so transferred.

SEC. 8. That there shall be an advisory board for the Department of Health. Said board shall consist of three competent experts, to be detailed from the Army, Navy, and the Bureau of Animal Industry by the Surgeon-General of the Army, the Surgeon-General of the Navy, and the Secretary of Agriculture, and one versed in law to be detailed from the Department of Justice by the Attorney-General, respectively (which experts, together with the chiefs of the bureaus of the Department of Health, shall be *ex officio* members of the board, and serve without additional compensation), and eight other members who shall be appointed by the Secretary of Health, who shall be competent experts, and not in the regular employment of the government. The said eight members shall each receive compensation of $20 per diem while serving in conference, as aforesaid, together with allowance for actual and necessary traveling expenses and hotel expenses while in conference. The term of service of the eight members of said board not in the regular employment of the government, first appointed, shall be so arranged that two of said members shall retire each year, and subsequent appointments shall be for six years. Appointments to fill vacancies occurring in a manner other than as above provided shall be made for the unexpired term of the member whose place has become vacant. The duties of said board shall be to consult with the secretary relative to investigations to be inaugurated in the department and the methods of conducting the same, to formulate, for the secretary's approval, the rules and regulations to be observed in maritime and interstate quarantine, to formulate opinions on subjects referred to it by the secretary, and to participate in conferences held by the Secretary of Health with the health authorities of states and territories and the District of Columbia; and so much of the act approved July 1, 1902, which relates to an advisory board for the Hygienic Laboratory is hereby repealed.

SEC. 9. That the Secretary of Health shall call an annual conference of the health authorities of all the states and territories and the District of Columbia, said conference to be held in the city of Washington, and each of the said states, territories, and the District of Columbia shall be entitled to send one delegate from its health department. And each delegate from said state or territory or the District of Columbia so attending a conference called by the Secretary of Health shall be entitled to receive an allowance for actual and necessary traveling expenses and hotel expenses, not exceeding five days, exclusive of days necessarily spent in travel: *Provided*, That when, in the opinion of the Secretary of Health, the interests of the public health would be promoted by a conference of one or more health authorities of states and territories with himself, he may invite such states and territories as he may deem necessary to send one delegate from each of the health departments to participate in such conference: *And provided further*, That it shall b
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[illegible] when [illegible] the same [illegible] service, to detail [illegible] the government for [illegible] of Health to carry [illegible] and such officers while so [illegible] compensation except for [illegible] incurred in the performance

[illegible] of Health shall annually, at [illegible] year, make a report in writing to Congress [illegible] of all money received and disbursed [illegible] department in fostering and promoting the [illegible] health, and in matters relating thereto. He shall [illegible] reports as he may be required to do by the [illegible] either house of Congress, or which he himself [illegible] necessary and urgent.

[illegible] 13. That, except as expressly provided for by this act, nothing herein contained shall be construed as limiting or abrogating any function, right, or duty now imposed by law on any existing bureau or part of bureau; but such bureaus and parts of bureaus as are by this act transferred to the Department of Health shall continue, under direction of the Secretary of Health, to have such functions, duties, and rights as they have at the time of such transfer, and such parts of bureaus as are not transferred, in those cases where a part only is transferred, shall continue to have such functions, duties, and rights as they would have had if this act had not been passed.

SEC. 14. That the sum of ———— dollars be, and is hereby, appropriated to carry the provisions of this act into effect.

SEC. 15. That all acts or parts of acts inconsistent with this act are hereby repealed.

SEC. 16. That this act shall take effect on and after July 1, 1911.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[*The Director will be glad to furnish further information and* [illegible] *to any county society desiring to take up the course.*]

Seventh Month—Fourth Weekly Meeting

INFECTIONS OCCURRING IN SURGICAL DISEASES AND CONDITIONS

ERYSIPELAS

ETIOLOGY: *Streptococcus erysipelatis*, relation to *Streptococcus pyogenes*. Season, age, sex, previous attacks, traumatism, local abrasions. *Infection may be* (1) *local* (ectogenous), (2) lymphogenous, or (3) hematogenous.

PATHOLOGY: Changes in the skin and subcutaneous tissues. Extension to *deeper structures*, meninges, etc. Changes in *endocardium, viscera.*

SYMPTOMS: Incubation, duration, *prodromata.* Invasion; general symptoms, chill, fever, *vomiting*, pulse, urine, nervous symptoms. Relation *of constitutional* symptoms to local lesions. *Local symptoms*; erysipelas erythematosum. Erysipelas *vesiculosum*, bullosum, pustulosum, gangrenosum. *Erysipelas migrans*, neonatorum.

TREATMENT: Prophylactic. Antisepsis. Puerperal cases. Reinfection. Diet.*

CONSTITUTIONAL TREATMENT: Medicinal. Serum treatment. Symptomatic treatment.

LOCAL TREATMENT: *Phenol*, mercuric chlorid, ichthyol. Subcutaneous injections. Strapping.

TETANUS

[illegible]OGY: Bacillus of tetanus, staining and cultural charac[illegible]ties. Tetanus toxins. Wounds *favoring* growth of bacillus. Fourth-of-July tetanus.

Incubation period, duration, prodromata. Gen-[illegible]toms. Condition of wound. "Idiopathic"

Changes

Farwell, W.

Guantanamo, C.

Riddick, W. J.

and ordered to the

CLINICAL TYPES: Acute and chronic, tetanus neonatorum, puerperal tetanus, head tetanus.

TREATMENT: Prophylaxis.
Local treatment.
Serum-Therapy: Method of using serum and antitoxins.
Phenol treatment.
Medicinal Treatment.

Monthly Meeting

The Value of Blood-Examination in the Surgical Infections.
The Clinical Diagnosis of Septicemia, of Pyemia.
Prophylaxis of the Surgical Infections.

Extra Weekly Meeting

There can be an extra weekly *meeting* for the exhibition of cases and for the report of case histories by any of the members.

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* Osler's Modern Medicine, iii, 533.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St., Portland.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

Preliminary Educational Requirement in Indiana

The State Board of Medical Registration and Examination has decided on the outline of minimum preparatory work required which will become effective June 30, 1912. It is as follows:

1. Graduation from a regularly commissioned high school of Indiana, or from an equivalent school, such graduation to be evidenced by a certificate or diploma properly *signed*, or in lieu of such graduation formal documentary evidence satisfactory to the board of a full equivalent of such high school course.

2. In addition to the above, the applicant must submit formal documentary evidence that he has pursued successfully in a recognized college or university in resident courses extending over not less than eighteen calendar months, sufficient work, including the courses outlined below, to entitle him unconditionally to not less than one-half of the total credits required by said institution for the bachelor's degree in the courses of liberal arts or science.

Specific subjects required: For applicants matriculating under these requirements subsequent to June 30, 1912, the following subjects are specifically required to be included in the preparatory work: One year each of chemistry and biology, one of which shall be college work. Two years of college English. The remaining college work is unspecified, save that it must be taken in subjects commonly recognized as belonging in the course of liberal arts or sciences. College courses, professional or semiprofessional in their nature, will not be accepted as meeting in any part the above preliminary requirements of two years of college work.

This board will not offer or accept any examination in lieu of, or as a test of any substitute for the above required college work in liberal arts or sciences. In lieu of such college work there may be offered an equivalent amount of work in a normal or other school whose credits are transferable and acceptable to such recognized college or university as contemplated above. The board may require as evidence of this equivalency a certificate from a college or university acceptable to the board, stating the work is so acceptable by said institution.

Book Notices

PRINCIPLES OF THERAPEUTICS. By A. Manquat, National Correspondent to the Académie de Medicine. Translated by M. Simbad Gabriel, M.D. Cloth. Price, $3 net. Pp. 208. New York: D. Appleton & Co., 1910.

Basing his studies on the scientific advances of the last half century and on clinical experience and exact observations, the author attempts to lay down principles for the guidance of the young physician. He divides remedies into four classes: etiologic or nosocratic, organic and functional, symptomatic, and reparative.

In dealing with the action of medicines a most important distinction is made between toxic and utilizable actions, both of which are included by pharmacologists under the term "physiologic." The author defines toxic action as follows: "The action on the organism of any substance which, in a relatively small dose, is capable of producing reactional, material or functional disorders, remarkable by their intensity, duration or gravity, whether these disorders be immediately appreciable or secondary and more or less slow in development." He says, "It is now obvious how far we are from an equation between toxicity and death."

For actions which do not exceed the limits of normal reactions, he proposes the term "utilizable action," and expresses the belief that this distinction has practical importance of the highest order because experimenters recognizing it will no longer exhaustively investigate the toxic action of a substance; on the contrary, the utilizable actions will interest them. While therapeutics may occasionally avail itself of toxic actions, as in the use of atropin as a mydriatic, the object should be to avoid them as a rule.

Another point to be emphasized is that the physician must always consider the possibility that the toxic action of the drug may cooperate with the action of the poison of the disease and so increase the undesirable effect on the weakened organ. Thus attention is called to the possibility of doing harm by the addition of medicinal to morbid toxicity.

Posology next demands attention and the important principle developed here is the determination of doses according to the action desired and their modification in accordance with the susceptibility of the organism. Protest is made against the use of the largest dose tolerated, to which is opposed the principle of giving the smallest effective dose.

The variations of practice imposed by various external conditions and by the nature of the disease producing the symptoms are discussed in a chapter on medicinal opportunity. There is excellent advice in the chapter entitled "Primum non Nocere," in which is discussed how one may do harm and how one may avoid doing harm. The author conservatively advises not to seek the better when good is at hand. "Where traditional medicine has shown the harmlessness and regularity of action of certain successful practices, it is inopportune to try to do better by some novel doubtful method."

Manquat's opinion of formularies is thus expressed: "It is, therefore, not too much to say that one may kill by conforming to a very good formulary." The formulary can only give the dose appropriate for the ordinary case. While in ordinary cases of pneumonia, digitalis is well borne and does good in relatively large doses, there are other cases, indicated by acceleration of the pulse and embryocardia, in which an ordinary dose may do harm by adding a medicinal poison to the poison of the disease. "How," Manquat asks, "could a formulary intended especially to furnish practical details on the administration of medicines discuss such views?" Again we quote, "What shall we think of tables of maximum doses? As I have myself been guilty of the elaboration of one, I may be severe with them. They are worse than useless, for they may warrant dangerous therapeutic procedures. Almost all posology, based as it is on the theories of physiologic therapeutics, should be revised and reduced."

As a conclusion of this chapter, the author lays down a scheme of questions which the physician should ask himself in difficult cases, in order that he may not neglect any important considerations and may avoid the chance of doing harm. While it would be impracticable to employ these questions in every case, it would be excellent practice for every student and young practitioner to use them until this method becomes habitual with him.

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Another quotation will indicate the author's view of much current clinical observation: "Numbers add no more to the presumption of utility of a medicine than ciphers added to one another constitute a figure. A simple observation well made is of more value than a thousand of these pseudo-observations."

Space forbids a complete analysis of this excellent work. Enough has been given to indicate its method and scope. The discussion is not confined to theory, but is carried into practical details. While the ideas and suggestions will, many of them, seem self-evident to the experienced physician, a reading of the book will stimulate him to a systematic review of the principles on which he bases his therapeutic practice, while to the beginner in medicine so clear an exposition cannot fail to be of great value. The translation appears to be exceptionally well done, no trace of French idiom being observable.

CIVICS AND HEALTH. By William H. Allen, Secretary, Bureau of Municipal Research. With an Introduction by William T. Sedgwick, Professor of Biology in the Massachusetts Institute of Technology. Cloth. Price, $1.25. Pp. 411, with illustrations. Boston: Ginn & Co., 1910.

The need of a book on modern applied sanitation which would be technically correct, and at the same time popularly interesting, has often been emphasized. Dr. Allen's book is a sincere effort to supply this need. It is divided into five parts. In the first, Dr. Allen discusses health as a civic obligation, stating that the best index to community health is the physical welfare of school children. The second part is devoted to the various physical evils from which school children suffer and the means of recognizing them. The third part is devoted to methods, including such problems as tuberculosis, clean milk, school inspection, etc. The fourth deals with municipal and school organization for securing hygienic conditions, while the last part of the book is devoted to a consideration of alcohol, tobacco, "patent medicines," sex hygiene and various methods of popular propaganda.

As was recently noted in our editorial columns, Dr. Allen's book has been adopted as a text-book for a reading course by a number of the county societies and county teachers' institutions in Missouri. The book contains a large amount of data, well arranged and forcibly presented. It is to be regretted that the influence of the work and of the author have been impaired by a tendency toward extravagant and unwarranted statements in some particulars. One illustration will suffice. "The man who discovers a surgical appliance is forced by the ethics of his profession either to commercialize it and lose his professional standing or to abide the convenience of his colleagues and their learned organizations in testing it. Rather than be branded a quack, charlatan or crank, the physician keeps silent as to convictions which do not conform to the text-book. Many a life-saving, health-promoting discovery which ought to be taken up and incorporated in general prac-

United States and its dependencies, and, if necessary, in foreign countries, and may appoint commissions of experts from the Department of Health or experts not in the regular employment of the government to make such investigation as may in his judgment seem wise.

Sec. 11. That the President is hereby authorized, when requested by the Secretary of Health, and when the same can be done without prejudice to the public service, to detail officers from the several departments of the government for duty under the direction of the Secretary of Health to carry out the provisions of this act, and such officers while so detailed shall receive no additional compensation except for actual and necessary expenses incurred in the performance of such duties.

Sec. 12. That the Secretary of Health shall annually, at the close of the fiscal year, make a report in writing to Congress, giving an account of all money received and disbursed by him and his department in fostering and promoting the public health, and in matters relating thereto. He shall make special reports as he may be required to do by the President, or either house of Congress, or which he himself may deem necessary and urgent.

Sec. 13. That, except as expressly provided for by this act, nothing herein contained shall be construed as limiting or abrogating any function, right, or duty now imposed by law on any existing bureau or part of bureau; but such bureaus and parts of bureaus as are by this act transferred to the Department of Health shall continue, under direction of the Secretary of Health, to have such functions, duties, and rights as they have at the time of such transfer, and such parts of bureaus as are not transferred, in those cases where a part only is transferred, shall continue to have such functions, duties, and rights as they would have had if this act had not been passed.

Sec. 14. That the sum of ——— dollars be, and is hereby, appropriated to carry the provisions of this act into effect.

Sec. 15. That all acts or parts of acts inconsistent with this act are hereby repealed.

Sec. 16. That this act shall take effect on and after July 1, 1911.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Fourth Weekly Meeting

Infections Occurring in Surgical Diseases and Conditions

ERYSIPELAS

Etiology: *Streptococcus erysipelatis*, relation to *Streptococcus pyogenes*. Season, age, sex, previous attacks, traumatism, local abrasions. Infection may be (1) local (ectogenous), (2) lymphogenous, or (3) hematogenous.

Pathology: Changes in the skin and subcutaneous tissues. Extension to deeper structures, meninges, etc. Changes in endocardium, viscera.

Symptoms: Incubation, duration, prodromata. Invasion; general symptoms, chill, fever, vomiting, pulse, urine, nervous symptoms. Relation of constitutional symptoms to local lesions. Local symptoms; erysipelas erythematosum. Erysipelas vesiculosum, bullosum, pustulosum, gangrenosum. Erysipelas migrans, neonatorum.

Treatment: Prophylactic. Antisepsis. Puerperal cases. Reinfection. Diet.*

Constitutional Treatment: Medicinal. Serum treatment. Symptomatic treatment.

Local Treatment: Phenol, mercuric chlorid, ichthyol. Subcutaneous injections. Strapping.

TETANUS

~ogy: Bacillus of tetanus, staining and cultural charac- ties. Tetanus toxins. Wounds favoring growth of bacillus. Fourth-of-July tetanus.

Changes du Incubation period. duration. prodromata. Gen-
Farwell, W. G toms. Condition of wound. "Idiopathic"
Guantanamo, Cub
Riddick, W. J., .
and ordered to the n.

Clinical Types: Acute and chronic, tetanus neonatorum, puerperal tetanus, head tetanus.

Treatment: Prophylaxis.
Local treatment.
Serum-Therapy: Method of using serum and antitoxins.
Phenol treatment.
Medicinal Treatment.

Monthly Meeting

The Value of Blood-Examination in the Surgical Infections.
The Clinical Diagnosis of Septicemia, of Pyemia.
Prophylaxis of the Surgical Infections.

Extra Weekly Meeting

There can be an extra weekly meeting for the exhibition of cases and for the report of case histories by any of the members.

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* Osler's Modern Medicine, iii, 533.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

Illinois: Coliseum Annex, Chicago, March 2-4. Sec., Dr. James A. Egan, Springfield.

Maine: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St., Portland.

Massachusetts: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Wyoming: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

Preliminary Educational Requirement in Indiana

The State Board of Medical Registration and Examination has decided on the outline of minimum preparatory work required which will become effective June 30, 1912. It is as follows:

1. Graduation from a regularly commissioned high school of Indiana, or from an equivalent school, such graduation to be evidenced by a certificate or diploma properly signed, or in lieu of such graduation formal documentary evidence satisfactory to the board of a full equivalent of such high school course.

2. In addition to the above, the applicant must submit formal documentary evidence that he has pursued successfully in a recognized college or university in resident courses extending over not less than eighteen calendar months, sufficient work, including the courses outlined below, to entitle him unconditionally to not less than one-half of the total credits required by said institution for the bachelor's degree in the courses of liberal arts or science.

Specific subjects required: For applicants matriculating under these requirements subsequent to June 30, 1912, the following subjects are specifically required to be included in the preparatory work: One year each of chemistry and biology, one of which shall be college work. Two years of college English. The remaining college work is unspecified, save that it must be taken in subjects commonly recognized as belonging in the course of liberal arts or sciences. College courses, professional or semiprofessional in their nature, will not be accepted as meeting in any part the above preliminary requirements of two years of college work.

This board will not offer or accept any examination in lieu of, or as a test of any substitute for the above required college work in liberal arts or sciences. In lieu of such college work there may be offered an equivalent amount of work in a normal or other school whose credits are transferable and acceptable to such recognized college or university as contemplated above. The board may require as evidence of this equivalency a certificate from a college or university acceptable to the board, stating the work is so acceptable by said institution.

Book Notices

Principles of Therapeutics. By A. Manquat, National Correspondent to the Académie de Medicine. Translated by M. Simbad Gabriel, M.D. Cloth. Price, $3 net. Pp. 298. New York: D. Appleton & Co., 1910.

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PRIMER OF HYGIENE. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Hermann Heyer. Cloth. Price, 40 cents net. Pp. 184, with 113 illustrations. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

This is the first of a series of elementary books to be used as school text-books, called the New-World Science Series. The aim, which is the instruction of the young in the subjects of hygiene, sanitation and human physiology, is in line with the present wide interest in matters of health and preventive medicine. In the simplest language, enforced by illustrative examples that come within the range of knowledge and understanding of children for whom the book is intended, personal hygiene is taught in its various phases. The reasons for and the manner of taking care of the various organs and functions of the body are taught; the effects of improper habits of eating and drinking, the effects of alcohol and tobacco, tea and coffee, and the necessity for exercise are presented graphically. The germ origin of diseases is explained, and such diseases as typhoid fever, tuberculosis, malaria and small-pox are described, and the method of preventing these diseases and the importance of keeping up body resistance are entered into in a simple way. An understanding of these matters by the very young should be valuable in establishing correct hygienic habits that should prove of inestimable benefit in the prevention of disease throughout the life of the individual, and thereby have a notable influence in the betterment of public health conditions.

EMANUEL SWEDENBORG'S INVESTIGATIONS IN NATURAL SCIENCE AND THE BASIS FOR HIS STATEMENTS CONCERNING THE FUNCTIONS OF THE BRAIN. By Martin Ramstrom. (*Till Kungl. Vetenskaps-Societeten I Uppsala vid dess 200-Arsjubileum af Uppsala Universitet. Den 19 November, 1910.*) Paper. Pp. 59, with 4 illustrations. University of Uppsala, 1910

After a brief summary of Swedenborg's excursions into the fields of mathematics, astronomy, mechanics, chemistry, mineralogy and geology, the author presents more completely his later teachings on the structure and functions of the brain and a detailed analysis of the sources of these neurologic doctrines.

Although Swedenborg's neurology was permeated by the absurd ideas current in his time, and long afterward, regarding the nature of the "animal spirits" or "fluidum spiritosum" and the seat of the soul, nevertheless the reader cannot fail to be impressed by the great advance of his views over those of most of his contemporaries.

The most important of these are that the centers of the psychic functions are to be found in the cerebral cortex, that these functions are localized in definite cortical areas and that the cortical nerve cells ("cerebellula") are the functional units. All of these views are shown to be represented in more or less fragmentary forms scattered through various previous publications with which Swedenborg was doubtless familiar; but nowhere were they assembled in forms so similar to their modern phases as in Swedenborg's writings.

The explanation of his success in sifting the few kernels of reliable neurologic observation from the rubbish of current speculation and superstition is found in the fact that before publishing his works on the brain he devoted several years to anatomic, physiologic and clinical studies in various scientific centers of Europe and was thus prepared with a real, though limited, basis for a scientific treatment of the scanty neurologic data of his time.

This little work adds an interesting chapter to medical history, valuable for its accurate citations of the possible sources of Swedenborg's ideas from the works of Descartes, Willis, Malpighi, Vieussens and others.

BIENNIAL REPORT OF THE DAIRY AND FOOD COMMISSIONER OF WISCONSIN. For the Period Ending June 30, 1910. J. Q. Emery, Dairy and Food Commissioner, Madison, Wis. Cloth. Pp. 368, *with illustrations. 1910.*

A perusal of the report of the Wisconsin Dairy and Food Commission is convincing evidence of the fact that Wisconsin is one of the leading states in control of food, especially dairy products. The amount of work carried on during the term of two years is enormous, and the results seem to be excellent. There are records of 2,031 food analyses, and in addition 8,247 samples of milk have been analyzed. Systematic inspection of dairies has put the dairy industry on a relatively high level, and this industry is yielding an annual revenue of $79,000,000. Valuable statistics are given, and elaborate charts of the location of dairies, cheese factories, etc. An interesting comparison between early dairy conditions and the modern state of affairs are presented. The importance of a sanitary milk-supply is emphasized and regulations discussed for the production of clean milk.

The report states that food products with poisonous or deleterious chemical preservatives are almost completely driven from the Wisconsin market and that the labels state the true contents of the packages. Wisconsin has shown us that state control of food products, especially of dairy products, can be made successful, and has put before us a worthy example, which ought to serve as a guide for other states.

NURSES' HANDBOOK OF DRUGS AND SOLUTIONS. By Julia C. Stimson, *R. N., Vassar A.B.*, Superintendent of Nurses, Harlem Hospital of Bellevue and Allied Hospitals, New York City. Cloth. Price, $1 net. Pp. 82. Boston: Whitcomb & Barrows, 1910.

On the principle that it is beyond the nurse to prescribe, but that she should have a knowledge of the powerful and important drugs, the author has attempted to impart such knowledge. Drugs are first classified according to their more important physiologic action. In doing this the author has made the error of classifying chloral as an analgesic. Definitions and examples of the different preparations are given, as fluidextracts, tinctures, etc. Methods and indications for modification of doses, table of weights and measures and equivalents, method of preparing percentage solutions, formulas of solutions in common use, and very brief descriptions of the actions and uses of the more important drugs are given. Some exceptions might be taken to the list given under the head of practical classification of drugs; for instance, under acids, tannic and hydrocyanic acid are given. This would convey an erroneous idea of the action of these drugs. There is a list of Latin phrases and abbreviations, and the book closes with a chapter on serums, antitoxins and vaccines. The book contains useful information for the nurse, but it is not presented in a very attractive form.

THE DETERMINATION OF THE DETERIORATION OF MAIZE, WITH INCIDENTAL REFERENCE TO PELLAGRA. By O. F. Black and C. L. Alsberg, Chemical Biologists, Drug-Plant, Poisonous-Plant, Physiological, and Fermentation Investigations. Issued Dec. 16, 1910. Bull. 199, *Bureau of Plant* Industry, U. S. Department of Agriculture. Paper. Pp. 36. Washington: Government Printing Office, 1910.

This bulletin describes some work done in the Bureau of Plant Industry with reference to spoiled corn. This is preliminary to a further study to determine the possible connection between spoiled maize and pellagra. In the study of corn the Italians lay great stress on acidity. The bulletin describes methods of examining corn, by inspection, biologically and chemically, determining its acidity, which in sound corn should not be over 30 as measured by alkaline tests, its ash, fat, phenol and other reactions and the determination of its toxicity by animal experimentation; also a study of the micro-organisms which cause it to become moldy. The work is valuable as a foundation for the final determination of the rôle, if any, that spoiled maize plays in pellagra. No conclusion has been reached as yet. Many references to the literature are given.

THEORIE UND PRAXIS DER INNEREN MEDIZIN. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Erich Kindborg in Bonn. Erster Band. Die Krankheiten der Zirkulations- und Respirationsorgane. Cloth. Price, 7 marks. Pp. 404, with 47 illustrations. Berlin: S. Karger, 1911.

The plan of this book is founded on the author's observation that students of practical medicine have frequently forgotten the pertinent facts learned in their preliminary studies of the fundamental sciences. Hence students are apt to pursue the subject of internal medicine with confused notions of the relations which chemistry, physiology and bacteriology bear to the subject at hand. Time is lost in referring to text-books, and the author has attempted to supply this lack by including, in his account of diseases, the essential facts of the fundamental sciences which find an application in the special case. The work is well done and may profitably be studied, not only by medical students but also by physicians who wish to review the subject.

MOTHERHOOD. A Manual on the Management of Pregnancy, the Preparation for and Conduct of Labor and the Principles and Methods of Infant-Feeding up to the Third Year of the Child's Life. Prepared especially for Mothers, Nurses and Students of Medicine. By Hudson D. Bishop, M.D., Visiting Obstetrician to the Maternity Hospital, Cleveland. Cloth. Price, $1.50 net. Pp. 244. Cleveland: Rose Publishing Co., 1910.

The author states in the preface that he has "endeavored to give everything, in a condensed form but in sufficient detail, that either the *mother* or nurse should know regarding the management of pregnancy, labor, and the lying-in, together with the care and feeding of the child." A book on this subject suitable for both mothers and nurses is an impossibility. It is unnecessary to alarm the expectant mother by informing her of all the symptoms and all the dangers of hemorrhage, abnormal presentations, puerperal sepsis, mastitis, phlegmasia alba dolens, etc.

Medicolegal

Unconstitutionality of Statute Taking Away Defense of Insanity, Etc.

The Supreme Court of Washington in the case of State vs. Strasburg (110 Pac. R. 1020) holds unconstitutional the statute of that state, enacted in 1909, which provides that "It shall be no defense to a person charged with the commission of a crime that at the time of its commission he was unable, by reason of his insanity, idiocy or imbecility, to comprehend the nature and quality of the act committed, or to understand that it was wrong; or that he was afflicted with a morbid propensity to commit prohibited acts; nor shall any testimony or other proof thereof be admitted in evidence."

The provisions of the state constitution especially considered were: "No person shall be deprived of life, liberty, or property without due process of law;" and, "The right of trial by jury shall remain inviolate." Consequently the court was confronted, as Justice Parker says, with the novel and grave question: Had the legislature the power under the constitution to enact a law taking away from a defendant accused of crime the opportunity to show in his defense the fact that at the time of the commission of the act charged as a crime against him he was insane, and, by reason, thereof, was unable to comprehend the nature and quality of the act committed? It is believed that this was the first instance of any such enactment. And an examination of a number of authorities is taken to show that the question of the insanity of the accused at the time of committing the act charged being one of fact when sought to be shown in his behalf, it is and always has been a question of fact for the jury to determine, as much so as any other question of fact bearing on the responsibility of the accused for the occurrence of the act relied on as constituting the offense charged.

According to the opinion prepared by Chief Justice Rudkin, if the act stopped with what is quoted above, there could be no question as to the legislative intent. For the first time in history, as far as the court was advised, the legislature of a civilized state has attempted to place the idiot, who hath no understanding from his nativity, the imbecile and the insane, who have lost their understanding through disease or mental decay, and the sane man, in the full possession of all his mental faculties, on an equal footing before the criminal law. But the legislature did not stop there.

Another section of the act provides that: "Whenever, in the judgment of the court trying the same, any person convicted of a crime shall have been at the time of its commission unable by reason of his insanity, idiocy or imbecility, to comprehend the nature and quality of his act, or to understand that it was wrong, or shall be at the time of his conviction or sentence insane, or an idiot, or imbecile, such court may in its discretion direct that such person be confined for treatment in one of the state hospitals for the insane, or in the insane ward of the state penitentiary, until such person shall have recovered his sanity. In determining whether any person convicted of a crime was at the time of the commission thereof unable by reason of his insanity, idiocy or imbecility to comprehend the nature and quality of his act, or to understand that it was wrong, or is at the time of his conviction or sentence insane or an idiot or imbecile, the court may take counsel with one or more experts in the diagnosis and treatment of insanity, idiocy and imbecility, and make such personal or other examination of the defendant as in his judgment may be necessary to aid him in the determination."

When these two sections are construed together, it is believed that the legislature did not intend to punish one for the commission of a crime, when by reason of his insanity, idiocy, or imbecility he was unable to comprehend the nature and quality of his act, or to understand that it was wrong, but rather that it intended to minimize the well-known evil resulting from the all-too-frequent interposition of the defense of insanity in homicide cases, where no other defense is available, by changing the time and mode of trial of the issue of insanity. But, assuming that the legislature simply intended to change the time and mode of trial of the issue of insanity, this latter-quoted section is lacking in every essential requirement of due process of law. While if the view must be accepted that the legislature intended to abrogate the defense of insanity in its entirety, and to place the sane and the insane, the idiot, and the imbecile on an equal footing before the criminal law, the opinion is still held that the act is unconstitutional and void.

The state sought to uphold the act on two grounds: first, on the ground that it is within the police power of the state to eliminate the question of intent in all criminal cases; and, second, on the ground that under modern theories the lawbreaker is taken into custody by the state for his own amelioration and reformation, and not as a punishment for crime—in other words, that the theory of legal punishment for crime is a relic of a barbarous age. But neither contention is accepted.

It will be conceded that the legislature has a broad discretion in defining and prescribing punishment for crime, but, broad and pervading as the police power is, it is not without constitutional limitations and restraints, and a valid penal law can scarcely be conceived of which would punish a man for the commission of an act which the utmost care and circumspection on his part would not enable him to avoid.

The argument that persons are no longer punished for their crimes is illusory and unsound. The man who is deprived of his liberty is punished, and you cannot change the fact by changing the name.

Exhibition of Body and Proof of Probability of Life

The Supreme Court of Pennsylvania says, in the personal injury case of Benson vs. Altoona & Logan Valley Electric Railway Co. (77 Atl. R. 492) that about five months after an accident in which the plaintiff was injured he was stricken with apoplexy which paralyzed his entire right side, and the real controversy at the trial was as to whether the paralytic condition was the result of the injuries received at the time of the accident or was due to a disease with which the defense claimed he was afflicted. The first assignments of error went to the refusal of the trial judge to compel the plaintiff to bare parts of his body for the examination of the jury. The plaintiff had submitted to a private physical examination by three physicians representing the defendant, and they were prepared to give their testimony as to the marks on his body. The Supreme Court holds that an exhibition of this kind to an unlearned jury is apt to do more harm than good, and the trial judge committed no error in refusing to order it in this case.

Nor does the court see any error in an instruction wherein the trial judge said to the jury: "There is no table of life probability adduced here in evidence, and I suppose counsel are afraid owing to the recent rulings of the Supreme Court to put in a life table, but it would be for you to look at this man and determine on the weight of the evidence from his appearance and from the evidence how long he would be likely to live, and, if his injury is permanent, then he ought to be compensated for the loss of earning power and for any pain and suffering that the weight of evidence shows he would endure in the future." The court says that, while life tables are admissible in evidence, the probability of life can be shown in other ways. In answering a request for an instruction, the trial judge told the jury that they should take into consideration the plaintiff's age, state of health, business habits, and manner of living. The suggestion that they might look at the plaintiff was expressly coupled with the instruction that their determination must rest on the weight of the evidence in the case.

Society Proceedings

COMING MEETINGS

American Medical Association: Joint Conference on Medical Education and Medical Legislation, Chicago, March 1-3.
Association of American Medical Colleges, Chicago, February 27-28.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Natl. Confed. of State Med. Exam. and Licng. Bds., Chicago, Feb 28.

CHICAGO PEDIATRIC SOCIETY

Regular Meeting, held Jan. 17, 1911

The President, Dr. John M. Dodson, in the Chair

Experimental Study of Allergy in Tuberculosis

Dr. H. F. Helmholtz: I investigated experimentally the relation of the point of inoculation and the size of the dose to the appearance and persistence of the cutaneous reaction. Forty-two guinea-pigs were inoculated in three series. In the first series, subcutaneous and intraperitoneal inoculations were compared; in the second series, intraperitoneal and intracardial inoculations were compared, and all three were compared in the third series. It was found that the injection of large doses of tubercle bacilli resulted fatally without producing an allergy demonstrable with the v. Pirquet test, in the majority of the intraperitoneal inoculations. Intracardially, a positive reaction resulted in a short time. Subcutaneously, all the pigs reacted. The same order also held for the small doses. The peritoneal inoculations gave rise to shorter periods of reactivity; the intracardial came next, and the subcutaneous gave the longest reaction. The interval between inoculation and first positive reaction varied from seven to one hundred days. The allergy varied from the first day to an indefinite period.

The microscopic examination of tuberculin reactions was undertaken in a series of strongly reacting pigs, both in normal and in tuberculous pigs, that were no longer reacting. The control and non-reacting animals showed practically no leukocytic infiltration. The sloughing extended slightly deeper in the latter than in the former. In the active reactions there was a thick slough in the area of scarification, separated from the normal tissue by a thick layer of purulent exudate, extending up to the surface on either side. The subcutaneous tissue, in the large reactions, had the typical appearance of an acute cellulitis, with the connective tissue elements widely separated by a fibrinous network, rich in polymorphonuclear cells.

In a series of six experiments, made to determine how soon the cutaneous reaction would appear after the peritoneal injection of tuberculous tissue, the animals were vaccinated every second day, beginning with the day after inoculation. On the sixteenth day after injections not a single animal had reacted positively; in fact, only three reactions occurred. Then, simultaneously, scarifications were made in the often vaccinated area, and in a hitherto unused portion of the skin. The animals all showed a strong positive reaction in the new area and practically none in the oft vaccinated area, with one exception, in which there was no reaction in either place. Only one animal showed a reaction in the old area. It is probable that this finding may be explained by assuming a using-up of the antibodies by the injected tuberculin, not sufficient antibodies remaining to combine with the tuberculin introduced through the scarified area to produce a reaction.

DISCUSSION

Dr. I. A. Abt: How do you explain the absence of the v. Pirquet reaction in cases of acute tuberculosis with fever?

Dr. H. F. Helmholtz: The disease process uses up the antibodies and none remains to unite with the tuberculin introduced by scarification. By using a large enough dose of tuberculin intracutaneously, a slight reaction usually results.

Dr. J. H. Hess: Schlossman claims that the injection of tuberculin increases immunity, while Hamburger holds that the disappearance of the cutaneous reaction to tuberculin reduces immunity.

Dr. H. F. Helmholtz: Observers generally disagree with Schlossman, asserting that by giving such large doses of tuberculin he merely uses up the available antibodies, and subsequent tests are negative. If the inoculations are interrupted for ten days or two weeks, the tuberculin test is again positive. I have caused the reaction to disappear by giving large doses of tuberculin.

Traumatic Diabetes in Children

Dr. S. Strauss: I have seen two cases of pancreatic diabetes following trauma. Both patients are alive and well. The first patient, aged 11, was hit by an automobile in July, 1907, and sustained a fracture of the right tibia. In February, 1908, he developed classical symptoms of diabetes. The v. Noorden gruel lowered the sugar output, but produced acidosis.

The second patient, aged 13, fell from a second story window, striking on his head. There was no evidence of injury. Three months afterward he had symptoms of diabetes. The v. Noorden diet invariably caused acetone to appear in the urine, and the ammonia coefficient was raised. The sugar output varied. The explanation probably is that the patient was suddenly switched from an ordinary diet to the v. Noorden diet without giving him a chance to regain his metabolism balance. A more gradual change of diet proved more satisfactory. At no time was there loss of body weight.

DISCUSSION

Dr. I. A. Abt: Diabetes in children usually results fatally, but these two cases were a revelation to me. Since then other similar cases have been reported. Of course, this is a different type of diabetes. Epstein showed that in 50 per cent. of these cases the trauma is to the head and in 50 per cent. elsewhere. We are in the habit of thinking that it is easy to produce diabetes if there is injury at the base of the fourth ventricle, yet these cases show that it may occur quite independently of any cerebral lesion. The matter of diet and acidosis was also interesting in these cases. When the patient was put suddenly on a different diet, there was either a rise in the ammonia coefficient curve or an increase in the sugar. When the patient was placed gradually on a different diet, these findings were not noted. It is difficult to feed these children the v. Noorden diet, because it is repulsive, and far from appetizing, but it is marvelous to see the good result when the patient is placed on this diet. The sugar disappears from the urine promptly. An observer in Budapest has reported a large series of cases of alimentary glycosuria in children who had been receiving malt foods. They were believed to be cases of pure diabetes, but when the carbohydrate was withheld the glycosuria disappeared. However, the two cases reported by Dr. Strauss were purely of traumatic origin, and not of the type of fatal diabetes mellitus so commonly seen in children.

DR. H. F. HELMHOLTZ: We know that the burning of carbohydrates in the body keeps the acidosis down, and when this does not take place, the acetone bodies are excreted in the urine. If carbohydrate is withheld entirely, the burning of fat is interfered with, and beta-oxybutyric acid accumulates in the body, and is excreted in the urine. In order to prevent this, therefore, there must be a burning of carbohydrates in the body. When the patients, therefore, were on the v. Noorden diet, they evidently burned all the carbohydrate given them, and when put on the other diet the sugar reappeared. These were not cases of diabetes where sugar is formed from proteids, so that the sugar found must have been introduced. The fact that the acidosis disappeared is absolute evidence that there were from 50 to 75 grams of carbohydrate being burned during that time. The acidosis is produced by an insufficiency of carbohydrates. When there are no carbohydrates in the body, the fats are burned and produce beta-oxybutyric acid. This acid cannot be oxidized any further, and is split into diacetic acid, and from that into acetone.

Study of Blood-Pressure in Normal Children

DR. MAY MICHAEL: In my studies I took into account not only the weight and height of the child, but also the circumference of the arm. I examined 128 children. The readings were taken as nearly as possible at the same time of day and under the same conditions. There was apparently an increase in the pressure with the increase in height and weight, but when the circumference of the arm was measured and the blood-pressure to the square millimeter estimated, the actual pressure was practically the same in a 5-year old child, 3 feet, 6 inches tall, weighing 40 pounds, as in a 15-year old child, 4 feet, 8 inches tall, weighing 90 pounds. According to Sallom, the area on which the pressure is exerted must be considered in estimating the blood-pressure, so that the actual blood-pressure must equal the height of the column of mercury, divided by the width of the cuff, multiplied by the circumference of the arm, which represents the area of the base. In the 128 children examined this formula did not vary more than 0.0014 mm., the mean pressure being 0.0070 mm., and the extreme 0.0084 mm. The formula is employed as follows: Multiply the arm circumference, 183 mm., by 90 mm., the width of the cuff. This equals 16,470 square millimeters, which is found to sustain 120 mm. of mercury. Therefore, one square millimeter will sustain 120/16,470, or 0.0072 mm., which represents the actual blood-pressure.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 9

1 *Sporotrichosis in Man and in the Horse. R. L. Sutton, Kansas City, Mo.
2 The Special Relation of Modern Medicine to the Health of Women. A. C. Vietor, Boston.
3 Overgrowth of the Epiphysis of the Lower End of the Femur with an Obliteration of the Epiphyseal Line. J. W. Sever, Boston.
4 *Breast Abscess During Pregnancy. J. T. Williams, Boston

1. **Sporotrichosis in Man and in the Horse.**—Sutton reports one case seen by him. The disease was confined to the wrist and followed an injury resulting while the patient was repairing a manger at which fed a horse which had sporotrichosis of the neck. The usual line of treatment, potassium iodid in increasing dosage, gave excellent results in this instance. The lesion was somewhat resistant, probably because the infection was a mixed one (sporothrix and *Staphylococcus pyogenes aureus*), but it healed promptly under the daily application of gauze packs moistened with 1 per cent. liquor cresolis compositus.

4. **Breast Abscess During Pregnancy.**—Williams believes that 5.5 per cent. of all breast abscesses occur during pregnancy, and that organisms are present on the nipples in 100 per cent. and in the milk ducts in 86 per cent. of all pregnant women. When their growth is predisposed to by engorgement, or the resistance of the breast tissues is lowered by injury, or the organisms present are of unusual virulence, they attack the tissues and produce inflammation. The prophylaxis of breast abscess during pregnancy, according to Williams, consists in absolute cleanliness of the nipple, and the prompt treatment of mastitis by bandage, ice and saline catharsis.

Medical Record, New York

February 11

5 Work of the New York Academy of Medicine During 1910. J. A. Wyeth, New York.
6 Economics of Medicine. W. M. Polk, New York.
7 Transfusion of Blood in Three Cases of Pernicious Anemia. D. Bovaird, New York.
8 Direct Inspection of the Rectum and Sigmoid Colon. E. Beer, New York.
9 Inebriety. DeL. Carter, New York.
10 Is Sterilization of the Habitual Criminal Justifiable? C. E. Nammack, New York.
11 Asphyxia of the New-Born Infant Relieved by Placental Aeration. M. H. Freund, New York.
12 Appendectomy with Cocain Anesthesia. C. R. Hancock, New York.

Lancet-Clinic, Cincinnati

February 11

13 Eight Patients with Syphilis and Parasyphilitic Affections Treated with Salvarsan. A. Ravogli, E. H. Shields and E. B. Tauber, Cincinnati.
14 A Case of Putnam's Type of Combined Scleroses. L. B. Askenstedt, Louisville
15 *Progress in Intestinal Surgery, with Demonstration of a New Method of Suturing Bowel. A. E. Benjamin, Minneapolis.

15. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1222.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

February

16 *Ninety Cases of Puerperal Eclampsia and a Critical Review of the Treatment of This Disease. E. G. Zinke, Cincinnati.
17 Significance of Anatomic-Histologic Examination Methods in Obstetrics and Gynecology. I. C. Rubin, New York.
18 *Etiologic Influence of Pregnancy on Molluscum Fibrosum. B. C. Hirst, Philadelphia.
19 *Myoma of the Uterus, with Special Reference to Degenerative Changes. J. B. Deaver, Philadelphia.
20* Intravenous Injection of Magnesium Sulphate in Bacteriemia. R. R. Huggins, Pittsburg.
21 Two Right-Sided Femoral Hernias in the Same Patient. N. S. Scott, Cleveland.
22 Obstetric Surgery in Private Practice. K. H. Aynesworth, Waco, Texas.
23 Two Cases of Antepartum Infection. C. B. Ingraham, Denver.
24 Puerperal Cough and Its Treatment. D. H. Stewart, New York.
25 *Treatment of the Retroflexed Gravid Adherent Uterus. X. O. Werder, Pittsburg.
26 *Method of Teaching Vagino-Abdominal Examination. F. J. Taussig, St. Louis.
27 Complete Inversion of the Uterus of Fourteen Years' Standing. S. E. Tracy, Philadelphia.
28 Treatment of Congenital Syphilis by Administration of Salvarsan to the Nursing Mother. H. D. Chapin, New York.
29 History of Treatment of Cerebrospinal Meningitis with Special Reference to Serotherapy. H. T. Radin, New York.
30 Care and Treatment of Nervous Children. I. T. Smart, New York.
31 Therapeutic Use of Tuberculin in Intrathoracic Tuberculosis of Children. L. C. Ager, Brooklyn, N. Y.

16 and 20. Abstracted in THE JOURNAL, Oct. 15, 1910, p. 1404.

18. **Influence of Pregnancy on Molluscum Fibrosum.**—In Hirst's patient, at the age of 18, four or five typical growths of molluscum fibrosum appeared on the anterior surface of the body, but did not increase in number. The woman married at twenty-five and became pregnant for the first time at twenty-six. During the first pregnancy the growths increased rapidly in number. After delivery, the numerical augmentation ceased, but the growths already developed remained. In each successive pregnancy, including the present, which is the seventh, there was an increase in the number of the growths, but no such increase in the intervals between the pregnancies. This case differs from Brickner's in the appearance of the disease to a very moderate degree before impregnation, in the absence of pigmentation, in the failure of the growths to disappear after delivery and in their greater size

and number. It differs from the cases described by dermatologists in the influence exerted on the progress of the disease by pregnancy.

19. **Myoma of the Uterus.**—The only point in which Deaver differs from those who believe in the higher percentage of malignant change, is in not advocating the removal of an accidentally discovered fibroid that is giving no symptoms. This, he says, is not a large class of cases and therefore, not a very important difference. Any tumor that begins to give trouble or to cause symptoms, even if only an irregular discharge, should be removed. The tendency toward malignant degeneration gives him one of the elements of his belief. The remainder are furnished by the greater frequency of troublesome non-malignant degeneration, the likelihood of hemorrhage and chronic anemia with cardiac and vascular disturbances, the frequency of pain and more or less dangerous pressure effects on the urinary tract, the intestines and surrounding organs, the proved failure of fibroids to cease from troubling with the menopause, and the certainty that in a large percentage of cases delay merely means operation later under less favorable conditions.

25. **Retroflexed Gravid Adherent Uterus.**—Werder reports briefly two cases coming under his observation of pregnancy in the retroflexed adherent uterus. He emphasizes two points in the treatment: (1) prompt operation as soon as the diagnosis under anesthesia has been confirmed; (2) separation of adhesions and reposition of uterus, but avoidance of all attempts at radical treatment or any other operative steps endangering the continuance of pregnancy. When operating before the end of the second month, the introduction of a pessary for a short period will prevent a return of the displacement without any danger to the fetus.

26. **Teaching Vagino-Abdominal Examination.**—Joint bimanual palpation is favored by Taussig. The essentials for accurate bimanual examination in his opinion are a knowledge of how the normal organs feel and where they lie in the pelvis, muscular relaxation of patient and physician, gentle manipulation and systematic exploration.

Wisconsin Medical Journal, Milwaukee

January

32 Present Status of Spinal Analgesia. A. J. Puls, Milwaukee.
33 Lobar Pneumonia. A. G. Hough, Morrisonville.
34 Mortality of Pneumonia. F. I. Drake, Madison.
35 A Surgical Aspect of Medical Education. J. L. Yates, Milwaukee.
36 *Chronic Diphtheria. G. C [illegible]
37 A Lipomatous Growth in [illegible] of the Ileum and Cecum Producing [illegible] and Obstruction of the Bowel. A. [illegible]
38 The Tsetse Fly and Sleeping-Sickness: Other Insect Carriers of Disease. A. C. Burrill, Milwaukee.

36. Abstracted in The Journal, July 23, 1910, p. 344.

American Journal of Physiology, Boston

February

39 *Distribution of Glycogen Over the Liver Under Various Conditions. J. J. R. Macleod and R. G. Pearce, Cleveland.
40 *Metabolism of Dogs with Functionally Resected Small Intestine. E. P. Underhill, New Haven, Conn.
41 Influence of the Preceding Diet on the Respiratory Quotient After Active Digestion Has Ceased. F. G. Benedict, L. E. Emmes and J. A. Riche, Boston.
42 Respiratory Change as Affected by Body Position. L. E. Emmes and J. A. Riche, Boston.

39. **Studies in Experimental Glycosuria.**—The distribution of glycogen over the liver, particularly during ether anesthesia and following the taking of food, and the average course of postmortem glycogenolysis (i. e., its time of onset and the velocity with which it proceeds), were two points investigated by Macleod and Pearce. They found that the percentage amount of glycogen in the different lobes of the liver varies by about 5 per cent. This variation, they think, is partly due to errors in the method of estimation (*Pflüger*) and partly because of an unequal amount of blood in different portions of the organ. These differences become greater (a) under ether anesthesia; (b) when the liver is left *in situ* in the dead animal, but are not materially affected by absorption of carbohydrate food from the intestine. After death in an etherized animal there is usually, but not always, an acceleration in the rate of glycogenolysis; this varies in different lobes. So far it has been impossible to determine the exact time of onset of post-mortem glycogenolysis, but it is certainly well established within twenty minutes after death. Once established, post-mortem glycogenolysis proceeds at a uniform speed for several hours after death, being dependent solely on the amount of glycogen remaining in the viscus (temperature, etc., being constant). Post-mortem glycogenolysis is much more active in intact than in cut up liver. In cut up liver, glycogenolysis is much more rapid when the liver is in contact with blood than when it is blood-free. The greater glycogenolysis in intact liver is not due to any influence which the nervous system might have during the few minutes after death in which it could still exert an influence. Stimulation of the great splanchnic has no constant influence on the course of post-mortem glycogenolysis.

40. **Metabolism of Dogs.**—From the experimental observations made by Underhill, it is apparent that as much as 39 per cent. of the small intestine of a dog may be short-circuited without causing significant detrimental changes in utilization of the various foodstuffs, and the animal may gain in weight. This statement is equally true when observations are made either at a period shortly after operation or at a period several months later. When as much as 66 per cent. of the small intestine has been functionally resected, the nutritive condition of the animal presents an entirely different aspect. Under these conditions, fat utilization is particularly decreased and the dog displays a decided tendency to furnish negative nitrogen balances. A small though steady loss of weight is slightly noticeable. Food utilization is in general apparently much better immediately after the operation than at a later period. In no animal observed did a material increase in fat intake cause significant change in the utilization of this or other foodstuff. When about three-quarters of the small intestine of the dog has been short-circuited, food utilization for the most part is seriously impaired, at least at a period several months after the operation. This is particularly true for fat utilization. Indican elimination through the urine is not materially altered under these conditions by replacement of meat in the diet with gelatin, an observation directly opposed to that obtained with the normal dog. The animal with a short-circuited intestine displays a greater ability to utilize carbohydrate than does the normal dog. Even though the carbohydrate intake may be much, in one case several times, greater than the normal animal requires, carbohydrate utilization is complete whether the test is made shortly after the operation or months later. This observation, Underhill believes, may prove of practical importance in the dietary treatment of the human subject who has undergone extensive intestinal resection.

Memphis Medical Monthly

December

43 *A Case of Gunshot Wound Through the Head. J. T. Seymour, Whiteville, Tenn.
44 The Arylarsonates in Syphilis and Pellagra. E. H. Martin, Hot Springs, Ark.
45 *Surgical Treatment of Goiter. W. T. Black, Memphis.
46 Making a Neurologic Diagnosis. G. G. Buford, Memphis.

43. Abstracted in The Journal, Dec. 10, 1910, p. 2090.

45. Abstracted in The Journal, Dec. 3, 1910, p. 2008.

Ophthalmic Record, Chicago

January

47 Small Round-Cell Sarcoma of the Orbital Cellular Tissues. W. B. Weidler, New York.
48 [illegible] erhardt, Michigan City, Ind.
49 [illegible] G. F. Keiper, Lafayette, Ind.
50 [illegible] to Prof. Herman Snellen, Sr. E. O. Sisson, Denver.

American Journal of the Medical Sciences, Philadelphia

February

51 *Medicinal Treatment of Diabetes Mellitus. F. Forchheimer, Cincinnati.
52 *Dietetic Treatment of Diabetes Mellitus. N. B. Foster, New York.
53 *A Résumé of Vaccine Therapy. H. W. Stoner, Baltimore.
54 Malignant Disease as a Problem of Modern Surgery. J. B. Deaver, Philadelphia.
55 *The Thenar and Hypothenar Types of Neural Atrophy of the Hand. J. R. Hunt, New York.
56 *Association of Suppurative Disease of the Nasal Accessory Sinuses and Acute Otitis Media in Adults. C. F. Coakley, New York.

57 Metabolic Changes in Hematoporphyrinuria Not of Drug Origin. C. L. Dana, New York.
58 *A Metabolic Study of Myotonia Atrophica. R. Pemberton, Philadelphia.
59 *Chronic Influenza and Its Relation to Neuropathy. G. I. Jones, U. S. Army.

51. **Medicinal Treatment of Diabetes Mellitus.**—For ordinary cases, Forchheimer prefers arsenic, given as liquor potassii arsenitis, in ascending doses, until mild toxic effects are produced; then the dosage should be gradually reduced. In order to get the best results from arsenic, mild toxic effects must be produced. This drug is especially indicated in severe cases, but it should always be combined with diet. It may also be given for general indications, and it is very valuable in neurotic, debilitated subjects. This drug does not increase sugar tolerance, and its effects gradually disappear when it is discontinued; unlike opium, never during its administration. Furthermore, in all the patients Forchheimer has treated, repeated courses have not lost their effect on the glycosuria and diminution of acetone bodies. Hexamethylenamin is especially valuable in such patients in whom diet regulation is impossible. At present, Forchheimer has employed it for five years, and given it in 5-grain doses, three or four times a day, an amount which has been, in one instance, continually taken for four months without any bad effects. With hexamethylenamin, glycosuria is improved and tolerance is increased. He does not recommend it for severe cases without proper diet.

In so far as belladonna is concerned, Forchheimer's results were the same whether he gave atropin methylbromid, atropin sulphate or belladonna itself. In a large number of cases glycosuria, and with it acetone bodies, have diminished or disappeared and carbohydrate tolerance was increased. Indeed, some of the patients were not dieting when taking this remedy, but when it was discontinued the sugar did not reappear for some time. In several severe cases it did no good. It seems perfectly adapted to milder cases, so that in one instance, without diet, there has been absence of sugar for over a year. In one case of diabetes in a child the disease ran its usual course, notwithstanding a strict adherence to Rudisch's directions as to diet and atropin methylbromid.

52. **Dietetic Treatment of Diabetes Mellitus.**—As a means of finding the type to which an individual case belongs, Foster emphasizes the importance of a diet representing approximately 125 grains of protein and 100 grams of carbohydrate, and which is equivalent to 3,200 calories. The patient is restricted absolutely to this diet, for two days, the urine being collected during the second twenty-four hours, and estimations made for the quantity of glucose and the presence and approximate amounts of diacetic and β-oxybutyric acids. The next step in the diet arrangement depends exclusively on this analysis. A number of illustrative cases are cited and recipes are given which for the most part were contributed by the families of patients.

53. **Résumé of Vaccine Therapy.**—While the medical literature abounds in articles on vaccine therapy, they are scattered through a large number of medical journals, covering several years. With the hope that by grouping together the cases from the literature, the reader may at a glance gain a better comprehension of the work being done and the results accomplished in this line, Stoner has written this paper. Its length prohibits the making of an abstract.

55. **Neural Atrophy of the Hand.**—In addition to the atrophic paralysis of the intrinsic muscles of the hand, of myelopathic and myopathic origin, Hunt believes that a neural type should also be recognized. Those of neural origin may be separated into two well-defined clinical types, both due to a compression lesion of a motor branch of a mixed nerve. These may be appropriately designated as follows: A hypothenar type, which term indicates the site of the compression at the base of the hypothenar eminence and its relationship to the ulnar nerve. A thenar type, which also indicates the site of the compression at the base of the thenar eminence, and the relationship to the median nerve.

56. **Association of Suppurative Disease.**—Coakley believes that the severer cases of acute rhinitis accompanied by acute infection of the nasal accessory sinuses are far more apt to be complicated by aural disease than the milder types of acute rhinitis. It is extremely rare for a patient with acute sinus disease, seen before acute otitis media has developed, to develop subsequently, during the course of the treatment, acute otitis media. Coakley is convinced that the early recognition of acute sinus disease, and appropriate treatment for its relief, will prevent many a patient from developing acute otitis media. The fact that acute otitis media usually occurs on the same side as the sinus disease inclines him to the belief that the pus from the various sinuses bathes the pharyngeal orifice of the Eustachian tube and is thence forced into and infects the tympanum. Patients with acute otitis media, associated with nasal accessory sinus disease, are more likely to develop such a degree of mastoiditis as to require a mastoid operation than patients with otitis not complicated by nasal accessory sinusitis. Coakley is inclined to believe, however, that some patients would repair the damage to the tympanum and mastoid if relieved of the added burden of the nasal disease. Patients suffering from chronic suppuration in the nasal sinuses are much less prone to acute otitis media than those having acute sinusitis. Coakley accounts for this in two ways: (a) The bacteria found in the pus in many cases of chronic sinusitis grow very poorly on any nutrient media; they seem to have lost much of their virulency. Should they be forced into the tympanum through the Eustachian tube, they may not infect the ear. (b) It is also probable that the antibodies in the chronic cases are a prevention against inciting a new infection. It is a well-known fact that after any operation, intranasal or external, in a case of chronic sinusitis, the virulency of the bacteria is greatly increased, owing to the wound secretions forming an excellent nutrient medium; hence the cellulitis or erysipelas which develops after some external operations in cases of chronic nasal accessory sinus disease.

58. **Myotonia Atrophica.**—Pemberton found that there is apparently no significant disturbance of the calcium output in muscular dystrophy; at least, in the presence of those phenomena which suggest Thomsen's disease. This can probably be inferred, though not surely, in regard to Thomsen's disease "*per se*." The creatinin output, however, under these circumstances may be considerably reduced and the creatinin co-efficient conspicuously low. Pemberton says that a consideration of the calcium, creatinin and general nitrogenous metabolism as recorded here, and in myasthenia gravis, may lead to information of value in classifying doubtful conditions of this nature and in localizing the perversions of function.

59. **Chronic Influenza.**—Jones' thesis is that influenza may be and frequently is a chronic intoxication. Chronic influenza in many respects certainly bears a close similarity to tuberculosis, and Jones has no doubt that many cases of chronic capillary bronchitis, pneumonia, bronchiectasis, etc., in which the disturbing factor was *Bacillus influenzæ*, have been diagnosticated tuberculosis. This has, in a way, been confirmed by his study of three cases, which clinically presented symptoms and physical signs of tuberculosis, but in which the tubercle bacillus could not be isolated. In man, therefore, the influenza bacillus must be regarded as capable of producing pathogenic processes without the aid of other organisms. The influenza bacillus must be regarded as the most important cause of a large number of cases of respiratory infection (acute and chronic) during the interepidemic periods; and as a contributing cause in many other cases when found mixed with the pneumococcus, *Micrococcus catarrhalis*, and other organisms. Patients may carry the organism in enormous numbers for years in their sputum, just as they have been shown to carry other common representatives of the flora of the respiratory tract. Jones believes that it is without question that organic and inorganic nerve disease results from acute influenza. Whether influenza is the original cause of psychoses acting as a chronic infection, or whether it is the contributing cause to a psychopathic basis, is a question. The history of influenzal epidemics has shown statistically that the mental and nerve force is lowered for a considerable time after the disappearance of the disease epidemically.

Bacillus influenzæ is responsible for a majority of cases of sinusitis, otitis, salpingitis, mastoiditis, and their sequels. The organism has been recovered in the discharge of more than 50 per cent. of patients suffering from suppurative otitis media, usually mixed with the pyogenic organisms.

Archives of Pediatrics, New York

January

60 *Mortality During the Early Weeks of Life. A. Jacobi, New York.
61 *Should Eclamptic Mothers Nurse Their Newborn? J. R. Goodall, Montreal.
62 *Diagnosis of Pleuritic Effusions in Infancy. D. J. M. Miller, Philadelphia.
63 *Proctoscopy and Sigmoidoscopy in Infancy as Applied to Infectious Diarrhea. H. L. Bowditch, Boston.
64 *Acute Lymphatic Leukemia in Infant with Leukocyte Count of 1,330,000. B. S. Veeder, Philadelphia.
65 A Simple Apparatus (Weiss) for Drawing Breast Milk. C. Herrmann, New York.
66 A Scale Pan for Simultaneously Weighing and Measuring Infants. C. Herrman, New York.

60. **Mortality During the Early Weeks.**—Discussing the means of preventing *infant mortality* during the early weeks of life, Jacobi says:

> If you want to break up the *infant mortality* of the first weeks of life, see that your young doctors can be made competent and the indigent women supplied with a thoroughly informed midwife. As long as you cannot abolish dire poverty, give no rest to your legislatures, none to your health departments. No infant fit to live must be sacrificed through the absence of a competent and responsible midwife, who is taught enough of hygiene to prevent fatal mistakes and enough to know when it is time to send for a doctor. The women of the nation must be healthy, else the young will be feeble and sickly. But the vast majority of the confined women in the large cities have no time to recover. Tens of thousands get up after their confinement on the third or fourth day to do the washing and the rest. Instead of the two months, which is the shortest period in which the organs can become again normal, a few days are allowed, with scanty food and no attention, and a household to care for. A woman who has not sufficient time to recover will start and retain her pelvic inflammation and decrepitude. Her present child suffers and dwindles and dies; the future ones, if there be any, will be decrepit when born, and are counted, or will be counted, among the stillborn.

61. This article was also published in the *Montreal Medical Journal*, November, 1910, and *Surgery, Gynecology and Obstetrics*, January, 1911.

62. **The Diagnosis of Pleuritic Effusions in Infancy.**—Miller emphasizes the following points: Pleurisy with effusion is a common affection in infants under the age of 2 years. In the majority of cases it is purulent. Because of the disastrous, and even fatal, results of delay in, or mistakes of, diagnosis, it should be recognized early so that prompt—that is, surgical—treatment may be instituted. The diagnosis is often obscure, demanding, in the highest degree, carefulness, skill and experience. In arriving at a diagnosis, the antecedent affections should be fully appreciated. Of these, pneumonia is by far the most common. The general symptoms, as well as the physical signs, should be carefully weighed and considered. Of these, the latter are the more distinctive. The most reliable signs, in the order of their importance, are (1) exploratory puncture, (2) dulness with a sense of resistance, and (3) displacement of the apex. The other physical signs, so valuable in differentiating effusions in the adult, are uncertain, variable and confusing, and cannot be relied on in infants. The recognition of localized collections of fluid is especially puzzling, and demands great skill and watchfulness and a frequent resort to exploratory puncture or operation. The latter is safe, even when the lung is pierced, and particularly so when fluid is present. Notwithstanding the rare accidents that have followed this procedure, it should be employed to determine the character of the fluid, and, owing to the distressing results of unrecognized empyemas, it is imperatively demanded in all doubtful cases. The variability of the physical signs is a striking feature in infants and should always suggest an effusion.

63. **Proctoscopy and Sigmoidoscopy in Infancy.**—In twenty-four cases of infectious diarrhea, Bowditch examined the rectum and sigmoid by inspection. He found that cases of diarrhea in which there is a history of blood in the stools (especially among infants), show signs of inflammation (red, thickened mucous membrane, prominence of the follicles, ulcers of varying types, but no true membranous condition) throughout the sigmoid and rectum, especially during the acute stage of the disease. These lesions seem to vary according to the virulence of the infection as to number and general appearance. They gradually become healed, leaving no signs nor evidence of scar tissue visible to local sigmoidal inspection in life. Bowditch also found that blood and normal intestinal mucous membrane may be present at least in the sigmoid and rectum in cases of fermental diarrhea. Of the severer types of cases, all but two patients received *one* or more irrigations, three had four, and two received none. No sign of any healthy appearance was found, neither did the mucous membrane of those treated, or those untreated, differ in any appreciable way. Of these cases of milder type, all but two patients received silver nitrate irrigations. Three were given each a single irrigation early in the disease, five had more than two, and at the most, three irrigations. While a gradual improvement was apparent at the end of these repeated irrigations, at no time did the mucous membrane after a single treatment show any distinct betterment.

64. **Acute Lymphatic Leukemia in an Infant.**—The count in his case, which reached 1,330,000, is the highest leukocyte count which Veeder has been able to find on record in lymphatic leukemia in childhood. E. H., female, aged 17 months, was brought to the hospital for a purpuric eruption, which was said to have appeared five days before admission. Practically no history could be obtained. The child had been breast-fed. A swelling of the neck had appeared "some time" before the eruption. The skin was pale and showed a widespread purpuric eruption varying in size from small, bright red petechial spots about pinhead in size, to large subcutaneous extravasations, cyanotic in color, and about the size of a 25-cent piece. The large extravasations were present over the forehead, extensor surface of the forearms, the tibiæ, and over the spines of the lumbar vertebræ; the smaller lesions were most marked over the face, right shoulder and the legs. Pressure over the bones did not produce pain or signs of tenderness. The joints were uninvolved. The mucous membranes of the mouth were pale, but showed numerous points of hemorrhage. The saliva was slightly blood-streaked. The tonsils were large, swollen and red, almost shutting off the mouth cavity from the pharynx. The cervical lymph nodes were enlarged and palpable. They were moderately soft in consistency and about the size of a hickory nut. Pressure over the right side of the neck seemed to cause pain. The axillary and inguinal nodes were both enlarged and distinctly palpable as separate tumors about the size of lima beans.

The interesting feature of the case is the blood-examination: hemoglobin, 55 per cent.; erythrocytes, 3,370,000; leukocytes, 1,330,000. The field under the microscope was densely packed with lymphocytes, these being so numerous as practically to obscure everything else. The lymphocytes showed two distinct types, a small and a large cell variety, but between these two extremes there were so many gradations in size that an accurate subdivision of many of the cells into a large or small lymphocyte was impossible. The differential count (1,000 cells) was as follows: lymphocytes, 98.5 per cent.; polymorphonuclears, 1.2 per cent., and myelocytes, 0.3 per cent. One nucleated red cell was found during this count.

Providence Medical Journal

January

67 Epidemic Paralysis. H. W. Burnett, Providence.
68 Tuberculous Peritonitis. G. A. Matteson, Providence.

Western Canada Medical Journal, Winnipeg

January

69 The Standardizing of Disinfectants. S. Delépine, Manchester, England.
70 Junod's Blood Derivations. G. Werber, Washington, D. C.

Atlanta Journal-Record of Medicine

January

71 Artificial Pneumothorax in Pulmonary Tuberculosis. M. E. Lapham, Highlands, N. C.
72 Digestive Symptoms of Pellagra. J. N. Le Conte, Atlanta
73 Treatment of Anemia by Hydrotherapy. W. L. Secor, Kerville, Texas.
74 Obstetric and Gynecologic Repair of Perineum. R. R. Kime, Atlanta.
75 *Self-Medication. T. B. Rice, Greensboro, N. C.
76 Pathogenesis of Tabes Dorsalis. T. A. Williams, Washington, D. C.

75. **Self-Medication.**—As a remedy for self-medication, the dangers of which are pointed out, Rice suggests that in view of the fact that each state has passed laws regarding the practice of medicine and pharmacy and as these laws were passed primarily for the protection of the people against ignorance and quackery and not for the protection of doctors and druggists, that these should be carried out and so amended and construed by the courts as to eliminate every form of quackery. Druggists should practice pharmacy, not medicine; they should refuse to indorse any patent or proprietary medicine; they should refuse to allow any nostrum to be advertised over their names; they should refuse to distribute booklets setting forth the many wonderful "cures," many of which are indecent and suggestive. Physicians should practice medicine, not pharmacy; they should prescribe, not dispense; they should prescribe drugs, not proprietary remedies, ready prepared under copyrighted names; the U. S. Pharmacopeia should be their guide; they should refuse to be "detailed" with copyright remedies or literature regarding them. The courts should clearly define the practice of medicine and what is meant by practice of pharmacy, and they should deny the right of those who are not duly qualified to practice either or to make a pretense thereto. Ready-made or proprietary remedies carrying directions and claiming to cure or mitigate disease should no longer be held by the courts to be mere merchandise, as the courts cannot regulate the claims made by the manufacturer. This narrow conception of justice allows the manufacturer, who in many instances is neither a physician nor a druggist, to diagnose by mail and practice medicine by wholesale. It allows the seller, regardless of his position in life, moral standard or qualification, to practice both medicine and pharmacy.

Archives of Ophthalmology, New Rochelle, N. Y.

January

77 Relationship of the So-Called Trachoma Bodies to Conjunctival Affections. H. Noguchi and M. Cohen, New York.
78 Occurrence of the Prowazek and Halberstaedter Bodies in the Normal Conjunctiva of Man and Apes. G. Addario, Palermo, Sicily.
79 Cataract Operations and the Preparation of the Surgeon. W. E. McKechnie, Etawah, India.
80 Enlargement of the Blind Spot, an Early Symptom in the Diagnosis of Optic-Nerve Affections, Due to Disease of the Posterior Nasal Accessory Sinuses. J. Van Der Hoeve, Utrecht, Netherlands.

Archives of Internal Medicine, Chicago

January

81 *The Spirilla of Relapsing Fever. H. A. Christian, Boston.
82 *Diphtheria Bacillus-Carriers. H. Page, Manila, P. I.
83 *Study of Streptococci with the Complement-Fixation and Conglutination Reactions. H. F. Swift and W. C. Thro, New York.
84 *Fifty Examinations of Cerebrospinal Fluid with Special Reference to the Cell-Count. A. Bybee, Elgin, Ill., and W. F. Lorenz, Kankakee, Ill.
85 *Schürmann's Color Test for Syphilis. R. G. Owen, Detroit.
86 *Is Hemoglobinuric Fever a Manifestation of Malaria or a Disease *Sui Generis?* C. F. Craig, Washington, D. C.
87 *The Ventilation of Sleeping Cars. T. R. Crowder, Chicago.

81. **Spirilla of Relapsing Fever.**—In the circulating blood of a patient suffering from relapsing fever, Christian found spirilla on the second and third days of a three-day paroxysm of fever. These spirilla were inoculated successfully into monkeys and white rats. Both failed to show recurrence of the organism after the first infection. The lesion produced in monkeys consists of an accumulation of polynuclear leukocytes and endothelial cells in the sinusoids of the liver, and a focal infiltration of the spleen with polynuclear leukocytes. The spirilla appear to be removed from the circulation in the monkey by phagocytosis, to a slight extent in the liver, more actively in the spleen.

82. **Diphtheria Bacillus-Carriers.**—Pure culture of *Staphylococcus pyogenes aureus* sprayed in throats has, in seven cases, now reported, destroyed the Klebs-Loeffler bacilli in carriers in from forty-eight to seventy-two hours. Page adds one case and says that this method of treatment is harmless and should be used in all cases of carriers. It has been found useful immediately after convalescence from an acute attack. He suggests that it is probable that its use during an acute attack of diphtheria would be successful, but as yet it is inadvisable to attempt its use in any save mild acute cases. He also urges that a sanitary survey should be made after every diphtheria outbreak to eliminate carriers, whether they be human or animal. By animal inoculation a distinction should be made between the virulent and the "morphologic" carrier. Four negative daily cultures are necessary before quarantine is raised. Treatment of carriers has heretofore proven useless. Local measures, while necessary, fail to influence the virulence or duration of the bacilli. Antitoxin has no influence on the bacillus in a carrier.

83. **Study of Streptococci with the Complement-Fixation and Conglutination Reactions.**—The conglutination reaction in the authors' hands has not proved of much greater value in the differentiation of various strains of streptococci than the agglutination reaction. Although the conglutination and agglutination reactions are specific for streptococci, they are not specific for individual strains of streptococci. Their experiments, however, are not sufficient in number for definite conclusions on this point. They found that the best extract of streptococci for use as antigen in the complement-fixation test is that prepared by drying the washed organisms, grinding and shaking them for twenty-four hours. Immune bodies, specific for different strains of streptococci, can be demonstrated by means of the complement-fixation test. Swift and Thro suggest that it is possible by the use of this test we have a means of studying specific streptococcus infections.

84. **Examination of Cerebrospinal Fluid.**—In view of the fact that the technic employed for the examination of the cerebrospinal fluid varies greatly in the hands of the individual investigator and gives, in consequence, such discordant results, Bybee and Lorenz endeavored to develop a technic which shall have the advantages of uniformity and reliability, together with the simplicity requisite for ordinary bedside employment. Their technic differs from that of Fuchs and Rosenthal in that they employ a red-cell pipette, drawing the original stain to 0.7, and wiping away the excess of stain from the point of the pipette. The stain is then drawn up into the diluting-chamber in such a manner that it evenly coats the inner wall. They hold that the French or centrifuge method for examination of the cells in the cerebrospinal fluid is not reliable for numerous reasons: 1. The cells are not always entirely thrown down, even by prolonged centrifugation. 2. It seems probable that this failure may be due to the difference in density of cells and fluid being insufficient at all times. 3. It is impossible to collect in a pipette all the cells which are thrown down. 4. The centrifugation results in clumping of the cells, which cannot be entirely overcome. This method requires the use of a centrifuge and is consequently not clinical. The counting-chamber method, when modified so that the red blood cells do not stain, presents none of the above objections. It requires only the ordinary blood-counting apparatus. The amount of fluid necessary for the counting-chamber method is at a minimum. In their hands all clinically and cytologically positive cases of general paralysis of the insane gave a positive cell-chamber count. With the French method only sixteen positive results were obtained and twenty-four negative results. In connection with this point they call attention to the frequent statement in the literature that a single puncture is not reliable as a negative result, and that in none of their cases was more than one puncture used. Differential cell counts at present give but little additional information, except in so far as they distinguish a lymphocytosis from a leukocytosis. While this paper deals more especially with the cytologic problems, it is worth noting that Noguchi's butyric acid test gave thirty-eight positive results in forty clinically and cytologically positive cases of general paralysis of the insane.

85. **Schürmann's Color Test for Syphilis.**—While, in Owen's opinion a simple color test would be an ideal one, the method of Schürmann does not provide us with such a test.

86. **Hemoglobinuric Fever.**—That hemoglobinuric fever is not due to malaria Craig believes to be proved by its geographic distribution; by the fact that it occurs in individuals who have never suffered from malaria; and by the fact that, in many instances, neither before, during, nor after an attack can plasmodia be demonstrated in the blood; while even at

autopsy no trace of malaria can be found. That the disease is not due to quinin is proved by the fact that it occurs in individuals who have never taken the drug, and that in many regions where the drug is extensively used the disease is unknown. For the following reasons Craig believes that it is due to a specific organism: its geographic distribution; its numerical disproportion to malaria wherever it occurs; its occurrence in epidemics; the character of the pathologic lesions; its symptomatology; the lack of conclusive evidence that it is due to malaria; and its analogy with other well-known infectious diseases. He also calls attention to the peculiar relation that this disease apparently bears to the hemoglobinuric fever of cattle and to piroplasma infection in general.

87. **Ventilation of Sleeping-Cars.**—Even under the older applied principles of ventilation, the air-supply of sleeping-cars, as determined in Crowder's study, is ample under nearly all conditions. The average carbon dioxid in the air of running cars falls well within the limits of contamination permitted by the earlier investigators, and it is relatively rare that the individual observations show more than 10 parts in 10,000. In the light of the newer conceptions, which have as yet been applied in practice only to a very limited extent, this air-supply is ample under all conditions observed. No danger to health is to be apprehended under the conditions ordinarily obtaining even in still cars. They are occupied only for short periods as a rule and are not uncomfortable if kept cool. It would seem that the results obtained by the type of exhaust ventilator investigated by Crowder, which is now a part of the standard equipment of Pullman cars, are entirely adequate to meet the demands of hygiene, and that those difficulties and discomforts which do sometimes arise are due to other causes than lack of a sufficient amount of fresh air or to excessive vitiation. It is extremely unlikely that increasing the air-supply, which now amounts to from six to ten or more times the cubic content of the car each hour, and must maintain considerable motion of the atmosphere, would aid in any other way than by making overheating more difficult to bring about. Overheating is the paramount evil. It is the thing chiefly to be guarded against in the attempt to maintain comfort and good hygiene.

Annals of Ophthalmology, St. Louis

January

88 Sloughing Corneæ in Infants. S. Stephenson, London.
89 Hemichorea, Hemiataxia, Hemiparesis and Dilated Pupil, Probably Due to a Lesion Near the Nucleus Ruber. C. K. Mills, Philadelphia.
90 Chronic Cyanosis with Polycythemia. W. R. Parker and G. Slocum, Detroit.
91 *Some Unusual Ophthalmic Cases. C. T. Veasey, Spokane, Wash.
92 Leukosarcoma of the Iris Removed by Iridectomy and Useful Vision Retained. J. Thorington, Philadelphia.
93 Marginal Degeneration of the Cornea. W. Zentmayer, Philadelphia.

91. **Unusual Ophthalmic Cases.**—Veasey reports five cases: (1) reading with the lines placed vertically; (2) papilloma of the corneal limbus; (3) papilloma of the lacrimal caruncle and conjunctiva; (4) sarcoma of the chorioid with marked orbital cellulitis; (5) metastatic panophthalmitis from a pelvic abscess.

Buffalo Medical Journal

February

94 Mutual Relations of Physician and Layman. G. W. Wende, Buffalo.
95 What Is the Physician's Duty in the Prevention of Moral and Social Diseases? F. W. Sears, Syracuse.
96 *The Construction of a Vagina. W. L. Wallace, Syracuse.

96. **The Construction of a Vagina.**—Wallace reports three cases. In one of these he pulled the mucous membrane of the vulva up to the cul-de-sac of Douglas, splitting the labia minora, making them single instead of double layers, and thereby getting longer mucous flaps. This made a vagina of mucous membrane the size and length of two fingers. In the other two cases he used intestine to make a vagina after the method of Baldwin. Hereafter, in using the ileum for the vagina, instead of bringing down the mi [illegible] stitching it to the vulva and opening it, af [illegible] Baldwin, Wallace says he would bring down [illegible] of the gut and sew them to the vulva, leaving [illegible] of the folded gut to form the roof instead of the entrance to the new vagina. This would save the necessity of closing and turning in the two ends, which procedure takes time and also uses up nearly an inch in length at each end. It also saves the necessity of opening the folded end to sew it to the vulva. This method would also make a smooth roof for the new vagina and would make the application of the clamp much easier, as the full length of the septum would be cut out. The intestine should be drawn down until the mesentery is taut, so that the new vagina will not prolapse; and any surplus mucous membrane should be cut away. Of course the mesentery must not be pulled down enough to interfere with the blood supply. Instead of using a Murphy button anastomosis of the divided sigmoid, Wallace prefers to tie a very large tube into the proximal end and then slightly invaginate the proximal into the distal portion of the gut, using fine silk to close the joint, and approximate the peritoneum, as suggested by Mayo, and as since used by Wallace in similar cases.

Journal of Advanced Therapeutics, New York

January

97 *Treatment of Inflammation Not Complicated or Caused by Infection. W. B. Snow, New York.
98 *Splenic Leukemia Successfully Treated by Modern Methods. C. W. Strobell, Rutland, Vt.
99 *Report of the Committee on Standardization. W. B. Snow, New York.
100 Roentgen-Ray Tubes. B. E. Baker, Boston.
101 Florida as a Health Resort. W. L. Secor, St. Petersburg, Fla.

97, 98, 99. Abstracted in The Journal, Oct. 1, 1910, p. 1223.

Kentucky Medical Journal, Bowling Green

February 1

102 *Acute Nephritis. W. R. Thompson, Mount Sterling.
103 *Chronic Nephritis. S. L. Beard, Shelbyville.
104 Pyelonephritis. O. P. Nuckols, Louisville.
105 Remote Sequelæ in Mistreated Syphilis. J. T. Windell, Louisville.
106 *Acute Gastro-Intestinal Infection in Infants. J. M. Rees, Cynthiana.
107 Prophylaxis and Treatment of Scarlet Fever. J. S. Lock, Barbourville.
108 Typhoid in Children. F. D. Cartwright, Bowling Green.
109 Measles. T. A. Frazer, Marion.
110 Prophylaxis and Treatment of Pneumonia. J. C. S. Brice, Flemingsburg.
111 The Finger as an Aid in Complete Enucleation of Tonsil. W. J. Thomasson, Newport.
112 Importance of a Correct Diagnosis. D. G. Simmons, Adairville.
113 Intestinal Obstruction. M. S. A [illegible] ton.
114 The Tubercle of Tuberculosis: [illegible] ogic Significance in the Physical Organization [illegible] to the Bacillus Tuberculosis. J. Glahn, O [illegible]
115 Puerperal Eclampsia. U. V. [illegible] fort.
116 Diseased Tonsils and Their [illegible] moval by [illegible] lectomy. D. M. Griffith, O [illegible]

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2. **Puerperal Eclampsia.**—Believing that the pregnant woman is protecting herself against a poison directly comparable to a venom, Murray suggests that there may be some therapeutic use for antivenin in eclampsia or the pre-eclamptic state. Judging from its action in snake poisoning, the likelihood of usefulness is very much greater in the latter.

4. **Cesarean Section for Dystocia.**—Routh calls attention to eight of these cases which, he believes, show that where ventrofixation causes dystocia, living children can be delivered with small risk to the mother by Cesarean section, after other attempts at delivery have been made, provided that antiseptic precautions have been carefully adopted. The only death was caused by a bowel complication present before the operation.

8. **Vaccines in Rheumatoid Arthritis.**—In two cases cited by Bannatyne and Lindsay, the results of serotherapy have been so satisfactory that they are encouraged to hope that in vaccines a cure may be found for many acute cases of rheumatoid arthritis. In both cases the micro-organisms were obtained from blood taken from veins of the antecubital fossa of the arm, after every precaution had been taken to ensure the impossibility of skin contamination. The media on which the cultures were obtained was blood-agar, and during the period of growth the incubator registered 35 C. In one case a growth was observed on the third evening, the appearance of the colonies being that of semi-transparent points. The appearance microscopically was that of a diplococcus, aggregated in clusters. The stain was retained after employing Gram's method. In the second case, a growth was observed on the second evening, in the form of single colonies less transparent than in the first case. These colonies became more abundant twelve hours later. Microscopically, the organism was found to be a micrococcus, arranged in clusters. The microorganisms were Gram-positive.

10. **Pitfalls of "Mental Tests."**—Myers urges extreme caution, at least for the present, in standardizing "mental tests" and in popularizing their use. He believes that in some forms, no doubt, tests can be usefully applied *en masse*—for example, with the object of determining the standard of intellect which a boy of given age should attain in order to class him as suitable or unsuitable to be taught in an "ordinary" or a "special" school. But, he says, such tests are "tests of production," not "mental tests." They determine how much an individual can work, how much he knows—not how he works, how he knows. A man's productivity, of course, is what we want to ascertain in every-day life. We do not care how a man comes to use or to acquire his powers; we are content with a mere dynamometric or other record of his powers. From this aspect, mass experiments must have some value. But this aspect cannot properly be called the psychologic aspect.

Lancet, London

January 28

11 The Hospital Unit in University Work. W. Osler.
12 *Auscultation of Joints. A. E. Garrod.
13 Transperitoneal Cystotomy for Tumor of the Bladder. S. Pringle.
14 *Puerperal Convulsions, or Eclampsia. W. Alexander.
15 The Rôle of Auto-Inoculation in Medicine. C. Riviere.
16 Cerebral Tumor Affecting the Under Surface of the Corpus Callosum and Filling the Right Ventricle. R. T. Williamson.
17 Subluxation of the Knee. J. J. W. Evans.
18 Atonic Dilatation of the Stomach. P. A. Mitchell.
19 Power of Speech in Cut-Throat. D. H. Metha.

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Clinical Journal, London

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autopsy no trace of malaria can be found. That the disease is not due to quinin is proved by the fact that it occurs in individuals who have never taken the drug, and that in many regions where the drug is extensively used the disease is unknown. For the following reasons Craig believes that it is due to a specific organism: its geographic distribution; its numerical disproportion to malaria wherever it occurs; its occurrence in epidemics; the character of the pathologic lesions; its symptomatology; the lack of conclusive evidence that it is due to malaria; and its analogy with other well-known infectious diseases. He also calls attention to the peculiar relation that this disease apparently bears to the hemoglobinuric fever of cattle and to piroplasma infection in general.

87. **Ventilation of Sleeping-Cars.**—Even under the older applied principles of ventilation, the air-supply of sleeping-cars, as determined in Crowder's study, is ample under nearly all conditions. The average carbon dioxid in the air of running cars falls well within the limits of contamination permitted by the earlier investigators, and it is relatively rare that the individual observations show more than 10 parts in 10,000. In the light of the newer conceptions, which have as yet been applied in practice only to a very limited extent, this air-supply is ample under all conditions observed. No danger to health is to be apprehended under the conditions ordinarily obtaining even in still cars. They are occupied only for short periods as a rule and are not uncomfortable if kept cool. It would seem that the results obtained by the type of exhaust ventilator investigated by Crowder, which is now a part of the standard equipment of Pullman cars, are entirely adequate to meet the demands of hygiene, and that those difficulties and discomforts which do sometimes arise are due to other causes than lack of a sufficient amount of fresh air or to excessive vitiation. It is extremely unlikely that increasing the air-supply, which now amounts to from six to ten or more times the cubic content of the car each hour, and must maintain considerable motion of the atmosphere, would aid in any other way than by making overheating more difficult to bring about. Overheating is the paramount evil. *It is the thing chiefly to be guarded against in the attempt to* maintain comfort and good hygiene.

Annals of Ophthalmology, St. Louis

January

88 Sloughing Corneæ in Infants. S. Stephenson, London.
89 Hemichorea, Hemiataxia, Hemiparesis and Dilated Pupil, Probably Due to a Lesion Near the Nucleus Ruber. C. K. Mills, Philadelphia.
90 Chronic Cyanosis with Polycythemia. W. R. Parker and G. Slocum, Detroit.
91 *Some Unusual Ophthalmic Cases. C. T. Veasey, Spokane, Wash.
92 Leukosarcoma of the Iris Removed by Iridectomy and Useful Vision Retained. J. Thorington, Philadelphia.
93 Marginal Degeneration of the Cornea. W. Zentmayer, Philadelphia.

91. ***Unusual* Ophthalmic Cases.**—Veasey reports five cases: (1) reading with the lines placed vertically; (2) papilloma of the corneal limbus; (3) papilloma of the lacrimal caruncle and conjunctiva; (4) sarcoma of the chorioid with marked orbital cellulitis; (5) metastatic panophthalmitis from a pelvic abscess.

Buffalo Medical Journal

February

94 Mutual Relations of Physician and Layman. G. W. Wende, Buffalo.
95 What Is the Physician's Duty in the Prevention of Moral and Social Diseases? F. W. Sears, Syracuse.
96 *The Construction of a Vagina. W. L. Wallace, Syracuse.

96. **The Construction *of a Vagina*.**—Wallace reports three cases. In one of these he pulled the mucous membrane of the vulva up to the cul-de-sac of Douglas, splitting the labia minora, making them single instead of double layers, and thereby getting longer mucous flaps. This made a vagina of mucous membrane the size and length of two fingers. In the other two cases he used intestine to make a vagina after the method of Baldwin. Hereafter, in using the ileum for the vagina, instead of bringing down the middle of the gut, stitching it to the vulva and opening it, after the manner of Baldwin, Wallace says he would bring down the opened ends of the gut and sew them to the vulva, leaving the closed end of the folded gut to form the roof instead of the entrance to the new vagina. This would save the necessity of closing and turning in the two ends, which procedure takes time and also uses up nearly an inch in length at each end. It also saves the necessity of opening the folded end to sew it to the vulva. This method would also make a smooth roof for the new vagina and would make the application of the clamp much easier, as the full length of the septum would be cut out. The intestine should be drawn down until the mesentery is taut, so that the new vagina will not prolapse; and any surplus mucous membrane should be cut away. Of course the mesentery must not be pulled down enough to interfere with the blood supply. Instead of using a Murphy button anastomosis of the divided sigmoid, Wallace prefers to tie a very large *tube into the proximal* end and then slightly invaginate the proximal into the distal portion of the gut, using fine silk to close the joint, and approximate the peritoneum, as suggested by Mayo, and as since used by Wallace in similar cases.

Journal of Advanced Therapeutics, New York

January

97 *Treatment of Inflammation Not Complicated or Caused by Infection. W. B. Snow, New York.
98 *Splenic Leukemia Successfully *Treated by Modern Methods*. C. W. Strobell, Rutland, Vt.
99 *Report of the Committee on Standardization. W. B. Snow, New York.
100 Roentgen-Ray Tubes. B. E. Baker, Boston.
101 Florida as a Health Resort. W. L. Secor, St. Petersburg, Fla.

97, 98, 99. Abstracted in The Journal, Oct. 1, 1910, p. 1223.

Kentucky Medical Journal, Bowling Green

February 1

102 *Acute Nephritis. W. R. Thompson, Mount Sterling.
103 *Chronic Nephritis. S. L. Beard, Shelbyville.
104 Pyelonephritis. O. P. Nuckols, Louisville.
105 Remote Sequelæ in Mistreated Syphilis. J. T. Windell, Louisville.
106 **Acute Gastro-Intestinal* Infection in Infants. J. M. Rees, Cynthiana.
107 Prophylaxis and Treatment of Scarlet Fever. J. S. Lock, Barbourville.
108 Typhoid in Children. F. D. Cartwright, Bowling Green.
109 Measles. T. A. Frazer, Marion.
110 *Prophylaxis and Treatment* of Pneumonia. J. C. S. Brice, Flemingsburg.
111 The Finger as an Aid in Complete Enucleation of Tonsil. W. J. Thomasson, Newport.
112 Importance of a Correct Diagnosis. D. G. Simmons, Adairville.
113 Intestinal Obstruction. M. S. Allen, Stithton.
114 The Tubercle of Tuberculosis: Its Pathologic Significance in the Physical Organization and Relation to the Bacillus Tuberculosis. J. Glahn, Owensboro.
115 Puerperal Eclampsia. U. V. Williams, Frankfort.
116 Diseased Tonsils and Their Complete Removal by Tonsillectomy. D. M. Griffith, Owensboro.

102, 103, 106. Abstracted in The Journal, Oct. 22, 1910, pp. 1493 and 1495.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

February 1

117 Problems of Medical Education in Minnesota. S. M. White, Minneapolis.
118 *Management of the Puerperium*. F. Leavitt, St. Paul.
119 Death Certificates: A Review of the Subject as Viewed from the Post-Mortem Room. H. E. Robertson, Minneapolis.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 28

1 History of Yellow Fever in West Africa. R. Boyce.
2 *[illegible] Comparison with Venom Poison and [illegible] H. L. Murray.
3 [illegible] in Labor. J. R. Freeland and B. A. H. Solomons.
4 *Cesarean Section for Dystocia Due to Ventrofixation of the Uterus. A. Routh.
5 Absence of the Fallopian Tubes and of Menstruation, Associated with Recurrent Peritonitis. W. G. Spencer.
6 Prolapse of the Inverted Uterus During Labor. A. S. Hendrie.
7 Treatment of Cancer of the Rectum. H. Cripps.
8 *Treatment of Rheumatoid Arthritis by Vaccines. G. A. Bannatyne and J. Lindsay.
9 The Proposed Coroner's Bill. J. Griffiths.
10 The Pitfalls of "Mental Tests." C. S. Myers.

2. **Puerperal Eclampsia.**—Believing that the pregnant woman is protecting herself against a poison directly comparable to a venom, Murray suggests that there may be some therapeutic use for antivenin in eclampsia or the pre-eclamptic state. Judging from its action in snake poisoning, the likelihood of usefulness is very much greater in the latter.

4. **Cesarean Section for Dystocia.**—Routh calls attention to eight of these cases which, he believes, show that where ventrofixation causes dystocia, living children can be delivered with small risk to the mother by Cesarean section, after other attempts at delivery have been made, provided that antiseptic precautions have been carefully adopted. The only death was caused by a bowel complication present before the operation.

8. **Vaccines in Rheumatoid Arthritis.**—In two cases cited by Bannatyne and Lindsay, the results of serotherapy have been so satisfactory that they are encouraged to hope that in vaccines a cure may be found for many acute cases of rheumatoid arthritis. In both cases the micro-organisms were obtained from blood taken from veins of the antecubital fossa of the arm, after every precaution had been taken to ensure the impossibility of skin contamination. The media on which the cultures were obtained was blood-agar, and during the period of growth the incubator registered 35 C. In one case a growth was observed on the third evening, the appearance of the colonies being that of semi-transparent points. The appearance microscopically was that of a diplococcus, aggregated in clusters. The stain was retained after employing Gram's method. In the second case, a growth was observed on the second evening, in the form of single colonies less transparent than in the first case. These colonies became more abundant twelve hours later. Microscopically, the organism was found to be a micrococcus, arranged in clusters. The microorganisms were Gram-positive.

10. **Pitfalls of "Mental Tests."**—Myers urges extreme caution, at least for the present, in standardizing "mental tests" and in popularizing their use. He believes that in some forms, no doubt, tests can be usefully applied *en masse*—for example, with the object of determining the standard of intellect which a boy of given age should attain in order to class him as suitable or unsuitable to be taught in an "ordinary" or a "special" school. But, he says, such tests are "tests of production," not "mental tests." They determine how much an individual can work, how much he knows—not how he works, how he knows. A man's productivity, of course, is what we want to ascertain in every-day life. We do not care how a man comes to use or to acquire his powers; we are content with a mere dynamometric or other record of his powers. From this aspect, mass experiments must have some value. But this aspect cannot properly be called the psychologic aspect.

Lancet, London

January 28

11 The Hospital Unit in University Work. W. Osler.
12 *Auscultation of Joints. A. E. Garrod.
13 Transperitoneal Cystotomy for Tumor of the Bladder. S. Pringle.
14 *Puerperal Convulsions, or Eclampsia. W. Alexander.
15 The Rôle of Auto-Inoculation in Medicine. C. Riviere.
16 Cerebral Tumor Affecting the Under Surface of the Corpus Callosum and Filling the Right Ventricle. R. T. Williamson.
17 Subluxation of the Knee. J. J. W. Evans.
18 Atonic Dilatation of the Stomach. P. A. Mitchell.
19 Power of Speech in Cut-Throat. D. H. Metha.

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is never fair treatment of cancer of the rectum, and should be reserved only for cases in which there is definite obstruction or for the relief of fistulous openings.

26. **Treatment of Plague.**—Thomson's remarks are founded on an extensive personal experience of the disease in Hong Kong. Speaking first of the general management of a case of plague, he says that while pneumonic plague is a highly infectious disease requiring the strictest isolation, bubonic and septicemic plague (far commoner than the pneumonic type) is not infectious, and might safely be treated in the wards of general hospitals or in the patients' own homes. When plague prevails, the extermination of rats is of primary importance; the methods of doing so which have proved most efficacious are traps and poisons. During the illness, the disinfection required is very much the same as in a case of typhoid. Nurses should be warned of the possibility of infection through an abrasion of the skin, and any abrasions present ought to be protected by collodion. Alcoholic stimulant (4 oz. of brandy daily) is generally required, and cardiac stimulants, digitalis, strychnin, strophanthus, are constantly required. The disease is essentially an asthenic fever. It is also important to attend to the bladder, as retention of urine is common, and to cleanse the mouth.

According to Thomson there is no really satisfactory specific treatment for plague, and for the most part, symptomatic treatment is an essential feature. As to the specific methods of treating the disease, Thomson relates his experiences with carbolic acid, given in large doses—12 gr. every two hours, or 144 gr. daily. If the drug was pure, carboluria rarely occurred, and when it did, all that was necessary was to intermit a few doses. He has treated a series of 143 patients in this way, with a mortality of 30 per cent. In Hong Kong the mortality of cases in which serotherapy was used was 80 per cent.; in Oporto, 14 per cent.; in Brisbane, 40 per cent. In India, taking selected cases, the mortality had been reduced from 74 to 63 per cent. by the use of the Yersin and Roux serum, and in private cases to 40 per cent. In Hong Kong, Thomson has never had such good results, though employing the same serum. Haffkin's prophylactic is of great value, he asserts, and should be given to nurses and contacts; it prevents the disease, even if given during the inoculation period. The third line of specific treatment is by organotherapy. Epinephrin is said to have reduced the mortality to 37 per cent. in a reported series of cases, and the success was enough to warrant further trial.

British Journal of Children's Diseases, London

January

31 Congenital Obliteration (or Congenital Atresia) of Bile Ducts with Cirrhosis of Liver. F. P. Weber and G. Dorner.
32 Enlargement of the Tubercle of the Tibia. R. C. Elmslie.
33 A Retrospect of Otology, 1910. M. Yearsley.

Journal of Obstetrics and Gynecology of the British Empire, London

January

34 Cesarean Section in the United Kingdom. A. Routh.

Archives Générales de Médecine, Paris

December, LXXXIX, No. 12, pp. 705-746

35 *Subscapular Friction Sounds. (Frottements sous-scapulaires.) M. de Laroquette.
36 *Sarcoma of the Medulla Oblongata. (Sarcomes du bulbe.) O. Claude and E. Chabrol.
37 Twenty-Five Cases of Epidemic Meningitis. R. Voisin and G. Paisseau.

35. **Subscapular Friction Sounds.**—A friction sound or cracking under the scapula when the shoulder is moved has been regarded as a sign of something wrong in the bone or periosteum but Tedeschi, in 1908, called attention to it as a sign of a tuberculous lesion in the lung below, and still more recently Rénon stated that it has considerable diagnostic importance for differentiation of pulmonary tuberculosis. Laroquette has been studying it on an extensive scale, examining 824 different individuals, including 161 with various diseases, mostly tuberculosis, and 43 children. He found the sounds pronounced in 8.2 per cent. of the 620 healthy persons examined; in 18.6 per cent. of the sick, and only once in a child. He also had occasion to examine post mortem several individuals who during life had had the sound very distinct. In his eighty-two cases with positive findings, the sounds were audible on both sides in forty. From this experience he concludes that the sound in itself has absolutely no pathologic importance; it is similar to the cracking sound heard sometimes in other joints as they are moved although the joints are and remain apparently healthy. The sounds are the result of contraction of certain muscles; when the joint is moved passively there is no sound. After the individual's attention is once attracted to the sound he notices it as he moves his shoulder and is liable to grow uneasy about it and imagine sensations in the joint. When the sounds are detected in a person who has never noticed them particularly, the physician should refrain from calling attention to them. The nervous system should be given general treatment if necessary.

36. **A Sarcoma of the Medulla Oblongata.**—At necropsy a sarcoma as large as a walnut was found in the medulla oblongata, entailing inflammation and atrophy of the cerebellum. The main complaints had been difficulty in swallowing and pain in the back of the neck. The first symptoms had been observed four years before. The velum was paralyzed and a sudden attack of dyspnea developed in which the patient succumbed. In a second case, death occurred suddenly after a week or so of symptoms diagnosed in the hospital as cerebrospinal meningitis. In ninety-two cases of tumors in the medulla oblongata on record, they proved to be sarcomas in only seventeen instances. These patients were between the ages of 25 and 40 and were mostly women, and the tumor was primary, without metastasis. Such tumors compress and destroy the nervous elements; they do not diffuse but remain well circumscribed. The first signs of trouble come on abruptly and the syndrome develops by repeated exacerbations, death occurring generally suddenly from action on the cardiorespiratory centers. Secondary hemorrhages are liable to occur in the growth. The profound destruction and successive involvement of the different bulbar nuclei induce a clinical picture very different from that of glioma; this wealth and multiplicity of the symptoms give the clue to the nature of the tumor, no other tumor in the medulla revealing its presence so unmistakably.

Annales de l'Institut Pasteur, Paris

December, XXIV, No. 12, pp. 921-984

38 Preservation of "Soluble Toxins." M. Nicolle and C. Truche.
39 Experimental Research on Tetanus Toxin and Antitoxin. M. Nicolle and H. Mouton.
40 Action of Heat on Antitoxins. M. Nicolle and C. Jouan.
41 Individuality of Cellase and Emulsine. G. Bertrand and A. Compton.
42 *Anaphylaxis After Spinal Serotherapy and Its Prophylaxis. (L'anaphylaxie rachidienne et les moyens de s'en préserver.) A. Besredka and S. Lissofsky.
43 Certain Hematozoa of the Congo. (Trypanosomes, Microfilaires, Leucocytozoaires.) A Lebœuf and Ringenbach.
44 Pyocyanase in Treatment of Anthrax. L. Fortineau.
45 Research on Antispermotoxic Serums. J. G. Fitzgerald.

42. **Prophylaxis of Accidents in Serotherapy.**—Besredka and Lissofsky state that recently in Paris alone there have been ten deaths which they ascribe to injection of antimeningococcus serum into the spinal canal. Hutinel has recently also called attention to four fatalities after intraspinal injection of the serum. Their experimental research has shown, however, that the phenomena of anaphylaxis to which they ascribe these accidents can be prevented by fractioning the serum to be injected. Their experimental research has shown that vaccination with repeated minute doses is borne by the guinea-pigs, while it is rapidly fatal if the vaccine is given in a single dose. They found that every guinea-pig sensitized by subcutaneous injection of a serum reacts with anaphylaxis when a new injection of the same serum is made into the spinal canal. However, there are no signs of anaphylaxis if the serum is fractioned in minute doses, whether administered by way of the skin, peritoneum, spine or veins. This occurs most rapidly with intravenous vaccination and most slowly with the subcutaneous; immunity is obtained with the intravenous route in fifteen minutes, while with the subcutaneous four hours are required. The antianaphylactic immunity thus acquired, after vaccination by the spinal route, does not last over twelve or fifteen days. They describe a number of series of experiments: For instance, a guinea-pig

weighing 420 gm. was vaccinated with 0.5 c.c. of serum injected into the jugular vein. Ten minutes later 0.14 c.c. was injected into the spinal canal. No signs of disturbances were observed although this is a rapidly fatal dose for unvaccinated guinea-pigs. The absolute protection against anaphylaxis was thus complete in ten minutes with the intravenous technic. An untreated animal given an intraspinal injection of the serum is sure to show signs of fatal anaphylaxis if another injection is made.

Presse Médicale, Paris

January 14, XIX, No. 4, pp. 25-40

46 *Dwarfs. (Nanisme et chétivisme.) H. Meige and A. Bauer.
47 The Urine in General Paresis. (Les échanges urinaires chez quelques paralytiques généraux.) H. Labbé and A. Gallais.

46. **Dwarfs.**—Meige and Bauer have been studying dwarf growth which they classify as total, when the individuals are merely well proportioned miniatures of ordinary adults; rachitic, myxedematous and achondroplasic. In the myxedematous type the tendency to dwarf growth can be cured by thyroid treatment, so that the physician may be able to remove the stigma of deformity from such patients.

Revue de Chirurgie, Paris

January, XXXI, No. 1, pp. 1-142

48 Sacrococcygeal Teratoid Tumor: Sixth on Record. (Angiosarcome à type périthélial développé aux dépens de la glande de Luschka.) F. Curtis and R. Le Fort.
49 Skin Grafting by Total Transplantation: Large Flap Without Pedicle: Eleven Cases. (Greffe cutanée par transplantation totale ou lambeau non pédiculé.) W. Dubreuilh and P. Noel.

Semaine Médicale, Paris

January 25, XXXI, No. 4, pp. 37-48

50 Indications and Technic for Anastomosis Between Bile Ducts and Intestines. F. Lejars.

Beiträge zur klinischen Chirurgie. Tübingen

December, LXXI, No. 2, pp. 317-578

51 Surgery of the Prostate. P. Kayser.
52 Typhlitis and Ascending Colitis. G. Pallin.
53 Intestinal Lipoma. Ehrlich.
54 Horizontal Fracture of the Skull. (Zur Kasuistik der Deckelfrakturen des Schädeldaches.) Ehrlich.
55 Otto-Chrobak Deformity of the Pelvis. (Fall von intrapelviner Vorwölbung und centraler Wanderung der Hüftpfanne.) Schertlin.
56 *Varicose Veins in Legs. (Pathogenese und zweckmässigste Behandlung der Krampfadern der unteren Extremitäten.) G. Moro.
57 Survival of Gonococcus in the Prostate. (Beständigkeit des Gonococcus in der Prostata und die klinischen Folgen der Blenorrhagie.) G. Moro.
58 Gastroptosis. G. Moro.
59 Surgery of the Duodenum. E. D. Schumacher.
60 Surgery of the Bronchus. M. Tiegel.
61 Bilious Peritonitis Without Perforation of the Bile Ducts. (Gallige Peritonitis ohne Perforation der Gallenwege.) Schievelbein.

56. **Treatment of Varices on the Legs.**—Moro reports forty-two patients with serious varicose disturbances all entirely cured by operative treatment according to Novaro's technic. This aims to interrupt the pathologic reflux of venous blood from the deep into the superficial veins which is the cause of the trouble. This pathologic reflux may occur solely at the point where the saphena magna empties into the femoral vein, or the intercommunicating veins may be involved in the valvular insufficiency between the deep and the superficial systems of veins. Any operative measure which acts merely on the superficial veins does not attack the real source of the trouble. Resection of the saphena magna at its junction with the femoral vein answered the desired purpose in full in 44 per cent. of his forty-two cases; in the others this operation had to be supplemented by resection of one or more of the intercommunicating veins. He tabulates the details of his cases and reports research on the cadaver which demonstrated that sudden violence was unable to force the valves to a point to induce varices; long-continued action of the injurious influences was necessary for this. He concludes his article by urging prompt intervention without waiting for the varicose disturbances to become very pronounced. In the early stages the Trendelenburg method of resecting the saphena magna at its junction with the femoral vein will cure the tendency permanently and prevent extension of the trouble to the intercommunicating veins.

Berliner klinische Wochenschrift

January 16, XLVIII, No. 3, pp. 101-152

62 *Polycythemia. R. Stachelin.
63 *Dietetic Treatment of Cardiovascular and Kidney Disturbances. (Karellkur, Oertelkur, Widal-Strausskur.) A. Magnus-Levy.
64 *Venesection and Saline Infusion in Treatment of Skin Dis- lass und Kochsalzinfusion bei ikheiten.) C. Bruck.
65 * en.
66 * E. Allard.
67 Improved Antiformin Technic for Determination of Tubercle Bacillus. (Ergänzung der Antiforminmethode zur Anreicherung der Tuberkelbacillen.) Lorenz.
68 *Tryptophan Test of Gastric Cancer. (Zur Diagnose des Magencarcinoms mittels der Fischer-Neubauer'schen Methode der Spaltung des Glycyltryptophans.) H. Ley.
69 Radiology of the Stomach. (Ein Wort über den Wismutmagen.) B. Stiller.

62. **Polycythemia.**—Stachelin reports that he has encountered seven pure cases of polycythemia with abnormally high blood-pressure and four others complicated with emphysema, heart defect, arteriosclerosis or nephritis—all in the course of one year. There was a history of syphilis in only one case. Permanent improvement or cure was not observed in any instance. He tabulates the various details for comparison and states that differentiation has not been of much use so far as treatment is concerned, as no measures gave permanent benefit, but yet differentiation is important on account of the prognosis. This is much more unfavorable than for neurasthenia, with which the disturbances might be confounded, or the patient might be accused of exaggeration or malingering. In the severe cases all the visible veins are turgid and the skin and mucosa are a cyanotic red, redder than with cyanosis and emphysema. The majority of the patients looked like healthy persons just after a hearty meal or severe muscular exercise. In the milder cases the patients' complaints had invariably been ascribed to neurasthenia.

63. **Dietetic Treatment of Kidney and Heart Disease.**—Levy regards an exclusively milk diet as essentially a salt-poor diet, but he warns that large amounts of milk contain appreciable quantities of salt. He gives a number of examples to show the great efficacy of prolonged prohibition of salt in treatment of severe parenchymatous nephritis with rebellious dropsy; two such patients had previously been systematically treated for six months with all other measures without improvement. He then put them on a mixed diet free from salt and in two months the dropsy had vanished. During this time one patient eliminated 300 gm. of salt; at first the kidney had not been permeable for salt, but in the course of the three weeks in which the kidney had been relieved of the task of salt elimination, it recuperated so that it eliminated constantly more and more, accompanied by the water to hold it in solution, and by the second month this patient's weight had declined by 66 pounds. This patient had not taken over 2 or 3 gm. of salt daily in the food during this period. If the restriction had been less severe and less systematically carried out, so that 5 or 6 gm. of salt a day had been permitted, the patient probably would never have been relieved of the dropsy. These cases not only emphasize the efficacy of the salt-poor diet after failure of all other measures, but they show the long course of the treatment necessary. Kidney patients of this class do not lose the dropsy so fast as patients with heart disease. The salt-poor diet may be valuable also with cirrhosis of the liver and heart disease although the mechanism of its action is different in such cases, the benefit being due to improvement in the conditions in the circulation as the superfluous salt is dropped from the diet. Reduction of the intake of albumin may also prove useful, as it spares the kidneys extra work. Restriction of fluids may prove efficient but only indirectly, as the patients unconsciously limit the intake of food and especially of salty foods, to prevent thirst when they are not allowed to drink water freely.

64. **Venesection and Saline Infusion in Treatment of Skin Diseases.**—Bruck has been treating eight patients with various skin affections by venesection, withdrawing about 250 c.c., following this with intravenous infusion of 500 c.c. of physiologic salt solution, his aim being to wash out the toxins in the blood which he regards as responsible for the skin disease. The effect was favorable in generalized pruritus, urticaria, erythema multiforme with effusion, and herpetiform dermatitis; no effect was observed in psoriasis and in a case of

diffuse eczema. This "lavage of the blood" not only washes out toxins but stimulates the blood-producing organs, and he thinks that it is liable to prove useful in a number of other skin affections in which the action of toxins may be assumed as a factor.

65. **Landry's Paralysis.**—Bolten reports two cases of typical paralysis of the Landry type, both confirming the assumption that the paralysis is the result of intoxication of the spinal cord, the action of the toxin interfering with the functioning of the spinal and bulbar centers, while it is not sufficient to be actually destructive. The toxins seem to leave the sensory neuron intact and merely to check motor functioning. Treatment of one patient on this hypothesis resulted in a complete cure. The aim was to substitute the cerebrospinal fluid by a non-toxic fluid; this was accomplished by withdrawing small amounts of the spinal fluid and replacing it with the same amount of physiologic salt solution. This was done six times in the course of eight days in the case reported —a total of 600 c.c. of spinal fluid being withdrawn and 540 c.c. of a salt solution being injected. The patient was a previously healthy young man, but for days the severe bulbar symptoms, extensive bronchitis and total paralysis of the diaphragm, vocal cords and muscles of swallowing rendered the prognosis very grave. The paralysis subsided in the various muscles in reverse order to its development, and the patient was dismissed in good condition after five weeks. In the first case there were signs of severe intestinal autointoxication and transient improvement followed calomel, but the patient died the tenth day.

66. **Serious Disturbances After Preventive Serotherapy.**—Allard remarks that the disturbances known commonly as "serum sickness" have been observed mostly in children and have been comparatively harmless, but he has recently encountered two cases in which almost fatal accidents developed after a preventive injection of antianthrax serum from a sheep or antitetanus horse serum. Both patients were physicians; the first had been inoculated with antitoxin for diphtheria seven years before and again a year and a half later. Four years after this he had also been immunized against rabies, being given at this time twenty-one subcutaneous injections of rabbit antirabies virus. He had thus been injected on two occasions with horse serum and then with rabbit virus, and when injected with the sheep serum he responded with typical anaphylactic phenomena just as in a laboratory experiment. The second patient had been given antitoxin treatment for diphtheria in 1898 and again in 1904, and he reacted to the injection of antetanus serum with intense general symptoms a few hours later, recurring in exacerbations during the week; the syndrome finally terminated with the severest attack on the eighth day, after which the pulse and respiration soon returned to normal. Other patients injected at about the same time with the same serum showed no disturbance. Treatment was in both cases by injection of camphor and caffein or drinking strong coffee. The urine was normal in both cases during and after the collapses. The prompt and complete recovery after the severe manifestations was a striking feature of the case. Allard reviews in conclusion what others have written on the subject, and comments that he did not dare, in the serious syndrome observed, to follow Besredka's suggestion to give ether; Besredka found that the animals in experimental anaphylaxis all survived when deeply anesthetized with ether. Allard commends the suggestion to use antitoxins made from different animals and in as concentrated form as possible.

68. **The Tryptophan Test for Gastric Cancer.**—Ley applied this test in twenty cases, all with anacidity, and twelve suggesting cancer. The findings were contradictory; in the four certain cases of cancer a positive reaction was obtained only in two, while the findings were also positive in four cases of simple gastric catarrh.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 20, XLI, No. 3, pp. 81-112

70 Salvarsan in Syphilis. B. Bloch.
71 *Recurring Hypertrophy of the Prostate After Prostatectomy. [illegible]
72 *Alkaptonuria. A. Oswald.

71. **Recurring Prostatic Obstruction After Prostatectomy.**—The disturbances from enlargement of the prostate in the case reported were practically cured by castration and cure of the cystitis but they returned again after five years, at which time perineal prostatectomy was done. Only a few scraps of the prostate were left, but they proliferated again in the course of three years until fatal uremia resulted. In this, as in two other cases previously reported from the same clinic there was no sign of a malignant tendency, the prostate tissue merely seemed to be endowed with an exceptional faculty for pure proliferation. The prostatectomy had been regarded as "total" in all these cases.

72. **Alkaptonuria.**—Oswald has found only sixty cases of alkaptonuria on record and he believes that it often escapes recognition as it must be more frequent than the literature would suggest. He compares it with diabetes and thinks that closer study of alkaptonuria might throw light on diabetes and other constitutional taints. He consequently urges physicians to be on the lookout for it and to report their cases or inform him personally of the details. The anomaly is easily recognized by the brown discoloration of the urine when it is shaken up for two or three seconds in a test-tube after it has been rendered alkaline by addition of solution of sodium or potassium hydroxid. The alkaptonuric urine has also reducing properties, giving the Trommer reaction.

Deutsche medizinische Wochenschrift, Berlin

January 19, XXXVII, No. 3, pp. 97-144

73 Injuries of the Eyeball. (Pathologie und Therapie der Verletzungen des Auges. II.) A. Elschnig.
74 *Artificially Induced Pneumothorax on Both Sides. C. Forlanini.
75 Salvarsan in Malaria. J. Iversen and M. Tuschinski.
76 *Salvarsan in Chorea Minor. J. v. Bokay.
77 Technic for Intravenous Injection of Salvarsan. H. Werner.
78 *Fate of Salvarsan in the Body. A. Bornstein.
79 *Acute Stage of Epidemic Poliomyelitis. Eckert.
80 *Origin and Treatment of Scoliotic Sciatica. E. Plate.
81 Primary Tuberculous Process in Mouth and Jaw. (Primäre Tuberkulose der Mundschleimhaut *und des Unterkiefers* nach Zahnextraktion.) O. Ehrhardt.
82 Improved Technic for Pubiotomy. (Zur Technik der Hebosteotomie: Die Beckienklammer, ein neues Instrument.) E. Blos.

74. **Double Induced Pneumothorax.**—Forlanini reports two cases in which after one lung had healed under an artificially induced pneumothorax, he applied the same procedure to the other lung, and with equal success. He also adds the histories of two other cases in which conditions would permit the making of a second pneumothorax on this or the other side in case such an operation ever becomes necessary. His cases confirm, he asserts, the reliability of this means of treating pulmonary lesions and its efficacy. Results are naturally better the earlier treatment is applied, and his experiences, he thinks, justify its application even for incipient lesions. Scrupulous care must be exercised to prevent infecting the pleura; if pleurisy develops adhesions form which interfere with the pneumothorax.

76. **Salvarsan in Chorea.**—The case reported is cited as an instance of successful treatment of recurring chorea minor with salvarsan. The patient was a girl of 8, and the severe chorea subsided in the course of the four weeks following the injection; but the patch of necrosis at the site of the subcutaneous injection near the costal arch had shown no signs of healing although it had ceased to spread by the end of this time. It was a little smaller in size than a silver quarter.

78. **Fate of Salvarsan in the Body.**—Bornstein has examined several cadavers of individuals dying of intercurrent affections from two weeks to several months after injection of salvarsan. The findings harmonized with those obtained in his research on rabbits, all showing that the arsenic injected in the form of salvarsan is carried to the liver, kidneys and spleen and stored up there, not only when it is incorporated by the intravenous route but also when injected into the muscle or subcutaneous tissue. It circulates in the blood only for a comparatively brief time. He found in one cadaver two weeks after injection 6.5 mg. of arsenic in the liver; 3.1 mg. in the kidneys, and 1.8 mg. in the spleen.

79. **Epidemic Poliomyelitis.**—Eckert analyzes nineteen cases of acute poliomyelitis in his charge at Berlin. Besides the paralysis, the pain in the spine and the profuse sweats were

the predominant features. One of the patients had had the same disease in 1903, leaving paralysis of the left leg, requiring later tenotomy. In 1909, the second attack occurred; it left the right leg paralyzed. One child of 8 died the eighth day of the disease which had developed with a fulminating course. He witnessed benefit in one case at least from lumbar puncture. He also made a point of mercurial inunctions during the acute phase, with hot baths and sweats, for their antiphlogistic action; electricity was used after subsidence of the pain in the spine. The Wassermann reaction was constantly negative with the cerebrospinal fluid, but a weak reaction was obtained with the blood in four out of the five cases tested.

80. **Sciatica Complicated with Scoliosis.**—Plate gives twenty-three illustrations of seven patients with chronic sciatica who also presented a greater or less tendency to scoliosis. He analyzes the cause of this tendency and explains it as the result of propagation of the trouble in the root of the sciatic nerve to the lumbar plexus with resulting neuralgia of the sensory nerve fibers in the muscles in the iliac region. On account of this pain these muscles are not normally stretched and in consequence the hip joint is slightly flexed; this shortens the leg and tilts the pelvis, the latter compelling curvature of the spine to maintain the balance of the body. The practical point is that the myalgia of the iliacus and psoas muscles requires treatment along with the sciatica in cases complicated with scoliosis.

Jahrbuch für Kinderheilkunde, Berlin

January, LXXIII, No. 1, pp. 1-130

83 New Clinic for Diseases of Infants and Children. (Strassburgs neue Kinderklinik.) A. Czerny.
84 Restitution of Water After Periods of Indigestion. (Studien zum Mineralstoffwechsel.) H. Koeppe.
85 Retention of Water During Fever. H. Koeppe.
86 Elimination of Phosphates in Urine of Bottle-Fed Infants with and Without Intake of Salt. H. Koeppe.
87 Fever After Intake of Salt. H. Koeppe.
88 Thyroid Not Responsible for Defective Bone and Cartilage Growth. (Ueber die angebliche Bedeutung von Schilddrüsenveränderungen bei Chondrodystrophia foetalis und Osteogenesis imperfecta.) M. Sumita.
89 Water-Content of Blood in Infants. (Wassergehalt des Blutes und sein Verhalten bei den Ernährungsstörungen der Säuglinge.) F. Lust.
90 Value of Albumin in Human Milk. (Zur Bewertung des Albumingehaltes der Frauenmilch.) P. Grosser.

Medizinische Klinik, Berlin

January 15, VII, No. 3, pp. 85-126

91 Treatment of Fractures. (Einrichten gebrochener Knochen.) K. Ewald.
92 Duodenal Ulcer. (Zur Diagnose und Therapie des Duodenalgeschwürs.) A. Kühn.
93 *Treatment of Diphtheria Bacillus-Carriers. (Zur Bekämpfung der Bazillenpersistenz bei Diphtherierekonvaleszenten.) M. Kretschmer.
94 Relations Between Multiple Sclerosis and Hysteria. H. Bendixsohn and Serog. Commenced in No. 2.
95 Herpes Zoster After Intravenous Injection of Salvarsan. L. Meyer.
96 The Cresyl Dyes in Clinical Staining Technic. O. P. Gerber.
97 *Improved Technic for the Antitrypsin Test. (Platten für die Trypsinprobe.) Kniaskof.

93. **Diphtheria Bacillus-Carriers.**—Kretschmer states that the diphtheria bacilli often lurk in the recesses of the tonsils long into convalescence, and he has succeeded in freeing thirteen patients from them by crushing the tonsils, thus squeezing out the plugs and secretions. He did this from one to nine times in the different cases, finally freeing the diphtheria convalescents in this way in from seventeen to thirty-eight days after the commencement of the disease. The results were promptest with the more accessible tonsils, more repetitions being necessary when the tonsils were far back.

97. **The Antitrypsin Test.**—Kniaskof extols the advantages of using gelatin instead of the Loeffler plate. He pours 10 or 15 c.c. of a 10 or 15 per cent. gelatin solution into a Petri dish and after it is hardened, he covers it with a 10 per cent. solution of formalin. After from twelve to twenty-four hours the formalin is poured off and the plate is rinsed for an hour under running water and then dried with blotting paper. Plates thus prepared kept for a long time. The little dimples formed from the eating away by the fluid to be examined, show up better if the gelatin is stained with a few drops of India ink while it is fluid. Scraps of the stained gelatin can also be used to test the fluid by dropping them into it. If the gelatin is dissolved by the action of the trypsin the fluid becomes stained by the India ink. No change of tint is accepted as a positive reaction to the antitrypsin test. [This test was described in The Journal, July 4, 1908, page 83.]

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

January, XXXIII, No. 1, pp. 1-124

98 *Extraperitoneal Cesarean Section and Pubiotomy. (Extraperitonealer Kaiserschnitt und Heboskeotomie.) A. Döderlein.
99 Laceration and Expulsion of Ring of Vaginal Wall. (Ringförmiger Ausriss der Scheide intra partum.) P. Esau.
100 *The Vaginal Methods in Gynecology. T. Dobbert.
101 *Acute Dilatation of the Stomach. H. Hellendall.
102 Primary Vaginal Cancer. (Zur Technik der Radikaloperation des primären Scheidenkrebses.) H. Peitmann.
103 Ovarian Dermoids. (Zur Aetiologie der Ovarialdermoide und zur Kenntnis der darin vorkommenden Haare.) M. Yamasaki.

98. **Extraperitoneal Cesarean Section and Pubiotomy.**—Döderlein has done Cesarean section by the extraperitoneal route in thirty-two cases by the technic which he describes and illustrates. The extraperitoneal slanting incision in the inguinal region is made with the patient's shoulders very low, but when ready to extract the child, the pelvis is lowered. All except three of the women were safely delivered. One of these succumbed to eclampsia twelve hours later and another was seriously septic when first seen after four days of labor; her child was dead, and another child could not be revived. Paralytic ileus was responsible for the third fatality. The great disadvantage of this technic is that it is more difficult to extract the child, but this is overbalanced by the advantages of not opening into the peritoneum and the less subjective discomfort for the patient. He has performed pubiotomy in fifty-three cases with the loss of only one patient from paralytic ileus. This operation has a mortality to date of six in 321 cases at seven large clinics, that is, 1.8 per cent. The two operations do not compete with but supplement each other. With manifest infection both are contraindicated.

100. **Vaginal Methods for Gynecology.**—Dobbert reviews his experience with the vaginal technic at St. Petersburg with or without supplementary laparotomy. The lesson taught, he says, is that the rational combination of the vaginal and abdominal methods is the technic for the future.

101. **Acute Dilatation of the Stomach.**—Hellendall reports four recoveries, that is, 53.54 per cent. of his total material. He has compiled 140 cases from the literature, including eighty-six in which the dilatation followed an operation. The list includes thirty-nine cases of dilatation of the stomach after gynecologic operations and twelve after gall-stone operations. An important symptom is the explosive vomiting with long intervals of comparative well being; the stomach region protrudes while the rest of the abdomen is not distended nor rigid. He ascribes the trouble in one of his cases to propagation of an infectious process in the small pelvis to the stomach wall, entailing atony. In a second case the dilatation was the result of accumulation of gases and they escaped as the tube was introduced; there was no abdominal infection in this case. In another case the vomiting was more like regurgitation, the mouth filling at brief intervals and the patient merely spitting out the fluid. The rapid pulse and difficulty in breathing are the main symptoms. In three of his cases the history was suspicious of old gastric ulcer. The dilatation may be primary or secondary; treatment should aim to tone up the stomach walls and to relieve it of its accumulated contents. It is especially important to repeat the gastric lavage at the moment when the paralyzed stomach begins to become distended again. The most certain prophylaxis of trouble is prevention of great distention of the upper abdomen, keeping up the patient's strength with nutrient enemas, saline infusion and subcutaneous injections of camphor or sugar solution. Desguin recommends specific serotherapy when infection is responsible for the dilatation. If the lavage of the stomach does not remedy conditions, the patient should be placed in the ventral decubitus to act on the occlusion of the duodenum probably responsible for the symptoms. Schnitzler has cured patients in this way. Bäumler commends the knee-chest position but notwithstanding the twenty successful cases on record in which this has been done, some writers regard it as dangerous—*Borchardt* has

reported a fulminating aggravation of the disturbances. Special care is necessary for patients after laparotomy, and Hellendall thought that one of his patients was injured rather than benefited by the position treatment.

Münchener medizinische Wochenschrift

January 17, LVIII, No. 3, pp. 121-176

104 Determination of Amebas. T. v. Wasielewski.
105 Active Substances in the Uterus and Ovaries. G. Schickele.
106 *Ear Conditions in Syphilitics After Administration of Salvarsan. O. Beck.
107 *Prognosis of Puerperal Psychoses. P. Jolly.
108 Functioning of the Pyloric Sphincter After Experimental Cross Section of Stomach. (Die motorische Funktion des Sphinkter pylori und des Antrum pylori beim Hunde nach der queren Durchtrennung des Magens.) M. Kirschner and E. Mangold.
109 *Fu[illegible] Influencing Shape of Skull in Young [illegible] Beeinflussung der Form des kind- [illegible] Walcher.
110 Transmission of Hypersusceptibility to Antipyrin to Guinea-Pigs. (Uebertragung von Antipyrinüberempfindlichkeit auf Meerschweinchen.) E. Klausner.
111 Improved Technic for Hemostasis in Operations on the Skull. F. Berndt.
112 Advantages of Sterilization with Tincture of Iodin. (Die moderne Jodpinselung, sowie über deren weiteres Anwendungsgebiet.) A. Hofmann.
113 Discoloration of Urine After Eating Mushrooms. (Harnverfärbung nach Schwammegenuss.) A. v. Notthafft.
114 *Apocynum in Chronic Cardiac Insufficiency. G. Fehsenfeld.
115 Scientific Medicine and Its Opponents. (Die wissenschaftliche Heilkunde und ihre Widersacher.) O. P. Neumann.

106. **Otologic Findings After Injection of Salvarsan.**—Beck has examined over a hundred syphilitics after salvarsan treatment; the findings confirm the fact that changes in the internal ear may be observed after taking the drug. All the patients examined had been referred to the university otologic clinic in charge of Urbantschitsch, on account of complaints in regard to their ears. In one case an otitis media, rebellious to all treatment for several months, healed completely nine days after injection of the salvarsan. In three other cases both the labyrinth and vestibule were evidently affected, the symptoms not coming on until five, *seven and nine weeks after* the injection of salvarsan; the Wassermann reaction was negative. None of these patients had ever had attention attracted to the ears before. There had been little change for the better in these patients during the three weeks to date of writing. The syndrome in one case was that of typical Menièreiform cerebral polyneuritis. In another case the vestibular nerve was alone affected without any subjective vestibular symptoms and there has been no change to date; the symptoms developed four months after the injection of the salvarsan and have remained unmodified to date. Beck thinks that this case speaks for a toxic action of the drug on the vestibular nervous apparatus similar to that which Rothig found in mice after treatment with arsacetin. Symptoms like those presented by this patient have been observed in untreated syphilis, but they almost invariably show a decided tendency to retrogression while in the case reported they have persisted. He knows, however, of a similar persisting syndrome in a case in which no salvarsan had been given. He adds that ear affections in untreated syphilis are comparatively rare while they have become unusually common since the introduction of salvarsan. The syndrome observed in his cases was like that in Rille's three patients developing over ten and twelve weeks after the injection [mentioned in THE JOURNAL, January 28, page 311]. Beck thinks it probable that persons whose ears are not entirely intact before taking the salvarsan are more liable to develop these nervous symptoms in the organ of hearing.

107. **Prognosis of Puerperal Psychoses.**—Jolly has been able to trace to date, after an interval of ten years at least, seventy-nine patients with puerperal psychoses at the Halle university clinic for nervous and mental diseases, 1887-1900. Complete recovery was observed *only in 46 per cent.* with slight change in character in an additional 13 per cent. In twenty-six of the seventy-nine there was recurrence of the psychoses—in fifteen in connection with other pregnancies. Only two of the nine patients recovered whose psychosis developed during pregnancy; twenty-nine of the fifty-five with true puerperal psychoses, and five of the fifteen whose psychoses developed during lactation. Six of the seven patients with mania recovered completely; the other patient died. Half of the six patients with catatonia developed dementia later, one after an interval of eight years of health. The best outcome was in the twenty-eight cases of amentia, complete recovery following in nineteen after an interval ranging from five weeks to eighteen months, and complete recovery in two others after an intercurrent recurrence. In four cases the amentia progressed to dementia. The amentia developed almost exclusively during the puerperium. In 25 per cent. of the puerperal cases there had been infection.

109. **Influencing Shape of Skull in Infants.**—THE JOURNAL summarized recently Walcher's views in regard to the necessity for watching over the way an infant lies in order to mould its head into normal shape and outline. Avoidable deviations from normal shape are frequently responsible for traction on important tissues within the skull and resulting brain trouble. He here relates further experiences in this line and the results of position in correcting abnormal tendencies. When deemed necessary to have the child lie on its back, he uses a low crib with high walls which the child cannot see through, and it lies on its back to look up. To keep the child on its side, the crib is made with lattice-work walls and is placed on a table against the wall, so that the babe has to lie on its *side to watch what is going on.* The pictures of twins "before and after" show the great differences in the shape of the skull that can be realized by the mere position of the crib and whether the child can look through its walls or not.

114. **Apocynum Cannabinum in Chronic Heart Disease.**—Fehsenfeld reports satisfactory experiences with Canadian hemp in a number of cases of chronic cardiac insufficiency in which digitalis had failed. The action is *similar to that* of digitalis though not so durable; the hemp extract therefore may prove useful when digitalis is contra-indicated or has worn out its usefulness.

Virchows Archiv, Berlin

January, CCIII, No. 1, pp. 1-160

116 *Tumors of the Hypophysis Region. F. Strada.
117 Cutaneous Fibromatosis with Hypernephroma. (Fall von multiplen Hautfibromen mit Nebennierengeschwulst.) K. Kawashima.
118 *Primary Cancer of the Liver. (Leberkrebs.) M. Goldzieher and Z. v. Bokay.
119 Patches of Ossification in the Skin: Six Cases. (Heterotope Knochenbildungen in der Haut.) M. Strassberg.

116. **Tumors in Hypophysis Region.**—Strada gives the necropsy findings in a case of tumor in the hypophysis region in a girl of 19 with a tendency to obesity. He also reviews the thirty-one cases of the kind on record, tabulating the findings for comparison and discussing the clinical manifestations with a tumor in this region and the connection between the hypophysis and other ductless glands, and the great physiologic importance of the hypophysis in general.

Wiener klinische Wochenschrift, Vienna

January 19, XXIV, No. 3, pp. 83-114

120 *Salvarsan in Syphilis. S. Ehrmann.
121 *Radiologic Research on Absorption of Mercury and Salvarsan. K. Ullmann and M. Haudek.
122 *Reliability of [illegible] lytic Tests of Gastro-Intestinal [illegible]
123 *Adhesive Pla[illegible] Ulcers. (Behandlung des Ulcus cruris varicosum mittels Pflasterstrumpfbandes.) K. Büdinger.
124 *Improved Technic for Electrolytic Depilation. S. Weidenfeld.
125 Unreliability of Mayerhofer's Method for Differential Diagnosis of Cerebrospinal Fluid. G. Simon.

120. **Salvarsan in Syphilis.**—Ehrmann has given this drug to *eighty syphilitics* in the last five months and he has noticed that the syphilids which develop thereafter differed from those usually observed at the stage of the disease involved and to such an extent as to suggest that the organism was modified in some way by the medication. In *one* case toxic action on the organ of hearing was manifest, the troubl in the auditory nerve developing in the fourth month of the disease, two months after injection of salvarsan which had been followed by sloughing at the point of injection. Improvement followed excision of the gangrenous mass; in 5.69 gm. of the gangrenous tissue he recovered 0.0032 gm. arsenic and he thinks it probable that in the gangrenous tissue some chemical transformation of the drug had occurred rendering it more toxic. He had two syphilitic patients in former years who became hard of hearing, with tinnitus, under mercurial treat-

ment alone, but under continued intermittent mercurial treatment these symptoms finally subsided. He ascribes the disturbances in the ear in part to the Herxheimer reaction, in part to the syphilitic process itself, and in part to the direct action of the mercury or salvarsan, but believes that it is more liable to occur in the cases with local infiltration or gangrene on account of the possible chemical transformation of the salvarsan in tissues of this kind. Abuse of tobacco or other factor causing a predisposition on the part of the auditory nerve is liable to cooperate in the production of such symptoms.

121. **Roentgen-Ray Research on Absorption of Mercury and Salvarsan.**—Ullmann and Haudek report the results of extensive research in this line which emphasize the advantages of fractioning the salvarsan so as to inject it in minute doses at several points at once; only a small proportion of a large dose seems to be completely absorbed and the unabsorbed portion is a menace to the tissues.

122. **Early Diagnosis of Gastro-Intestinal Cancer by Meiostagmin and Hemolytic Reactions.**—Kelling reports distinct positive reactions in 47 per cent. of forty-five patients with cancer tested for the meiostagmin reaction while positive findings were obtained in only three of eighty-five patients with non-malignant affections. The reaction was obtained in some of the cancer cases before a tumor was palpable, testifying to the importance of the test for the diagnosis of incipient cancer. He also applied the hemolytic test with hen blood-corpuscles and obtained a positive reaction in thirty of the forty-five cancer cases, both tests giving positive findings in seventeen of the forty-five patients. In eight of the forty-five cases neither test elicited a positive reaction. It thus proved possible to obtain a positive reaction by one or the other test in 80 per cent. of the forty-five cancer cases, while the reaction was positive in only six of the eighty-five patients with non-malignant affections. [The technic for the meiostagmin test was given in THE JOURNAL, May 28, 1910, page 1790]. Kelling has modified his hemolytic test and commends the later technic, III, as simpler and more reliable. The human serum to be examined is inactivated at 55 C. for half an hour; then 0.5 c.c. is added to 1 c.c. of a 5 per cent. suspension of hen red blood-corpuscles in 0.85 per cent. salt solution. The mixture is set aside for an hour at a temperature of 37 C. and then is rapidly rinsed twice with physiologic salt solution and centrifugated. To the sediment is then added physiologic salt solution to 1.5 c.c. and the whole is well shaken, after which 0.05 c.c. of normal active human serum is then added. The test tubes are then incubated until the control tubes with the inactivated normal serum turn pink. The tubes are then shaken up, centrifugated and titrated. The results are listed according to the percentage of normal hemoglobin, for example, 60 represents 60 per cent. hemoglobin dissolved. He tabulates the parallel findings with the meiostagmin reaction and with the three forms of the hemolytic test as recorded for 130 patients. As the reaction is a biologic one, its failure in 20 per cent. is no more than might be anticipated. A record of 80 per cent. positive reactions with cancer in such a large number of cases confirms the claims of the inventors of the tests as to their specific nature and reliability, while the simplicity of the technics, Kelling adds, places these tests within the reach of all.

123. **Adhesive Plaster Garter in Treatment of Varicose Veins.**—Büdinger winds a few turns of cotton cloth about 10 cm. wide around the leg below the knee. Over this he winds three of four spiral turns of a strip of adhesive plaster about 4 cm. wide, until the plaster forms a band about 6 cm. (nearly 2½ inches) wide. This plaster garter is drawn tight enough to compress the superficial veins but not enough to cause stasis. The constriction is applied of course with the leg elevated and the venous blood stroked back toward the trunk. When the garter works loose enough for the blade of a pair of scissors to be introduced beneath it, it is removed and a new one applied. This is generally necessary about once a week. Varicose ulcers heal rapidly below this garter and it will be found useful, he declares, in all cases in which operative measures are contra-indicated.

124. **Improved Technic for Electrolytic Depilation.**—Weidenfeld saves time by inserting 150 needles in turn and then applying the electric currents all at once.

Zentralblatt für Chirurgie, Leipsic

January 21, XXXVIII, No. 3, pp. 73-104

126 Catgut. (Erfahrungen mit Kuhn's Catgut nebst Bemerkungen zur Technik der Appendektomie.) R. Bertelsmann.
127 Substitution of Phalanges for Metacarpal Bones. (Plastischer Ersatz der Mittelhandknochen durch die Phalangen.) A. Hagentorn.

Zentralblatt für Gynäkologie, Leipsic

January 21, XXXV, No. 3, pp. 97-136

128 *Improved Technic for Pubiotomy. (Einfluss der Beinhaltung auf das Klaffen des durchsägten Beckens und ihre Bedeutung für die Weichteilverletzungen bei Hebosteotomie.) A. Mayer.
129 Fetal Singultus from Contractions of Diaphragm. J. Rothschild.
130 *Vaginal Cesarean Section for Fulminating Pulmonary Edema. J. C. L. Massini.
131 [illegible] in Puerperal Eclampsia. (Ein durch [illegible] heilter Fall von puerperaler Eklamp-
132 *Hyperfunctioning of Ovaries or Testicles as Cause of Rachitis. S. Stocker.

128. **Improved Technic for Pubiotomy.**—Mayer has found that the injuries of the soft parts with pubiotomy are due to the sudden stretching apart of the sawed halves, thus pulling on the soft parts with such a sudden jerk that lesions result. This can be avoided, he states, by sawing the bones with the patient in the Walcher position, with the pendent legs held close together. Only when the legs are raised to the horizontal position do the bones gape. The danger from the sudden gaping of the bones was exemplified in v. Rosthorn's case in which immediately after the sawing of the bones they separated with such traction on the soft parts that a fulminating fatal hemorrhage resulted. The pendent legs should be drawn into the horizontal position only with extreme caution and very gradually, to spare the soft parts all sudden traction.

130. **Vaginal Cesarean Section for Pulmonary Edema.**—Massini knows of only three cases on record like his own, in which vaginal Cesarean section was done to relieve fulminating edema of the lungs. His patient was a multipara of 38, who had had edema, nausea and tendency to dyspnea at night during the first three months of the pregnancy. Fulminating pulmonary edema developed suddenly at the eighth month, unmodified by the usual measures; the patient lay in coma and pulseless for moments at a time. She began to breathe better immediately after the vaginal Cesarean section; the interval between the onset of the intense edema in the lungs and the termination of the operation was scarcely twenty minutes. As the uterus did not contract, the placenta was removed by hand and the interior of the uterus massaged and improvement was soon evident but the coma did not subside until the next day. The child was cyanotic to an extent Massini had never before beheld; it had suffered not only from the lack of intake of oxygen by the mother but also from the fact that the mother's blood had evidently drained the fetus of all its oxygen. The woman was soon convalescent.

132. **Ovarian Hyperfunctioning as Cause of Rachitis.**—Stocker implanted in a two-weeks' calf the ovaries from a healthy cow that had calved once. In a few weeks the calf developed a picture resembling in every respect that of rachitis, while the control calf under identical conditions otherwise was strong and lively. These findings and experimental research suggest that rachitis is due to excessive functioning of the ovaries or testicles and that treatment on these lines might prove effective. It has certainly displayed efficacy, he says, in the one clinical case in which he has applied it to date. The patient was a girl of 17 with pronounced rachitis and pains in the bones. She was given the milk of a castrated cow and in a few days the pains disappeared and she began to increase in stature.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 15, XXXII, No. 7, pp. 67-82

133 *Meningism E. Cerrano.

January 17, No. 8, pp. 83-90

134 Experimental Syphilitic Keratitis. (Sull' inoculabilita dell' ulcera venerea nella cornea del coniglio.) A. Fontana.

133. **Meningism.**—Cerrano comments on the difficulty in distinguishing between actual meningitis and the vague condition which he calls meningism. Lumbar puncture is the criterion, and he reports a case in which everything seemed to indicate acute meningitis except the negative findings in the spinal fluid. The meningism may be due to infectious or toxic causes, or reflex, hysteric or physical; in his case it was traceable to gastro-intestinal auto-intoxication and the convulsions and contractures ceased as the intestinal tract was cleared out.

Policlinico, Rome

January, XVIII, Medical Section No. 1, pp. 1-48

135 Clinical and Post-Mortem Findings in Tardy Hematomyelia from Trauma of the Spinal Cord. E. Tramonti.
136 *Tetragonus Acute Ascending Myelitis. G. Catola.
137 *Influenzal Pleurisy and Peritonitis. G. Ghedini.
138 Primary Multiple Malignant Lymphomas of the Jejunum. F. Fulci. Commenced in preceding number.

136. **Tetragonus Myelitis.**—Catola's patient was a girl of 17 with both gonorrhea and syphilis; three months after the development of the syphilitic eruption she began to have fever, headache and paresis of the legs, blending into total paraplegia of the ascending type, fatal the fifteenth day. The findings in the spinal cord were those characteristic of acute poliomyelitis but the symptoms had been more those of Landry's paralysis. A tetragonus in pure cultures was obtained from the blood and cerebrospinal fluid, and this germ was evidently responsible, he thinks, for the syndrome observed.

137. **Influenzal Pleurisy and Peritonitis.**—Ghedini summarizes fifty-two articles on this subject which he has found in the literature and reports seven cases from his own experience, one of which has never been reported before. In three of his cases the influenzal bacillus induced pleurisy with effusion, in one pleurisy without effusion, in one peritonitis with effusion and in two others several of the serous membranes were involved with considerable effusion. Treatment, he states, is that for influenza in general, and is based mainly on quinin. *Differentiation is easy if a preceding attack of influenza gives the clue but it may be difficult in the absence of this.* The sudden onset, the intensity of the symptoms, the brief course and the favorable outcome distinguish the influenzal from tuberculous pleurisy and peritonitis, while the benign course and lesser tendency to recur differentiate it from streptococcus and staphylococcus processes. Bacteriologic examination of the effusion or blood or serodiagnosis may be necessary in *some* cases.

Hygiea, Stockholm

December, LXXII, No. 12, pp. 1297-1441

139 Berzelius. (Betraktelser öfver Berzelii verksamhet inom djurkemien.) K. A. H. Morner.
140 Experiences with Tuberculin Cutaneous Reaction. (Tuberkulinympningar enlight v. Pirquets metod utförda å Kronprinsessan Lovisas vårdanstalt.) O. D. Barr.
141 Acute Pancreatitis; Twelve Cases. J. Borelius.
142 *Prognosis of Traumatic Neuroses. J. Billström. Commenced in No. 10.

142. **Traumatic Neuroses.**—Billström gives full summaries of 103 cases of traumatic neuroses, including seven from his own experience. The list is based on the records of several clinics and insurance societies in Sweden. Complete recovery sooner or later was the rule in 90 per cent.; the longer the interval the larger the number of complete cures observed. The local and monosymptomatic forms of hysteric or pure neurasthenic traumatic neuroses give the best prognosis. Suggestion from the physician making the examination, and especially repeated examinations, render the prognosis less favorable, he has found, and he warns that the certificate should never be accessible to the patient. The Swedish insurance societies do not regard traumatic neuroses as entitling to an indemnity and this aids in reducing the tendency to exaggeration of the trouble on the part of the injured. *But it is extremely important, Billström emphasizes, to distinguish between the "pure" and the complicated cases of traumatic hysteria.* In case of an indemnity, the prognosis is better when it is paid in a lump sum rather than as a pension. Among his seven cases complete recovery followed after a few months or years—the interval being eight years in one case during which time there had been periods of freedom from the neurosis followed by recurrences under emotional stress. One puzzling case proved to be malingering, the home physician sending in an intentionally misleading certificate. One patient is still unduly nervous but for this his chronic alcohol addiction may be responsible.

Ugeskrift for Læger, Copenhagen

January 19, LXXIII, No. 3, pp. 71-100

143 Experiences at Tuberculosis Dispensary. (Erfaringer fra Ribe Amts Tuberkulose-Diagnose Station.) T. Brinch.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the *courtesy of the sender.* Selections will be made for review in the interests of our readers and as space permits.

1. Some Known and Three New [illegible] odes from American Fresh-Water Fish. [illegible] 2. Some New Parasitic Trematode Worm [illegible] .his. By Joseph Goldberger. 3. A New Species of Athesmia (*A. Foxi*) from a Monkey. By Joseph Goldberger and Charles G. Crane. Hyg. Lab. Bull. 71, U. S. P. H. and M.-H. S., Treasury Department. January, 1911. Paper. Pp. 61, with illustrations. Washington: Government Printing Office, 1911.

The Modern Materia Medica. *The Source, Chemical and Physical Properties, Therapeutic Action, Dosage, Antidotes and Incompatibles of All Additions to the Newer Materia Medica That Are Likely to be Called for on Prescriptions, Together with the Name and Address of the Manufacturer or Proprietor, and in the Case of Foreign Articles, of the American Agent.* Second *Edition.* *Cloth.* Price, $1.25. Pp. 432. New York: The Druggists Circular, 1911.

Handbook of Treatment for Diseases of the Eye (Ophthalmic Therapeutics). By Dr. Curt Adam, Assistant-Surgeon in the I. University Clinic for Diseases of the Eye, Berlin. With a *Preface by Prof.* von Michel, Berlin. Translated from the Second German Edition (1910), by William George Sym, M.D., F.R.C.S.Ed., and E. M Lithgow, M.B., F.R.C.S.Ed. Cloth. Price, $2.50. Pp. 264, with 36 illustrations. New York: Rebman Co., (1911).

Diseases of Children for Nurses. Including Infant-Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia. Second Edition. Cloth. Price, $2 net. Pp. 470, with 118 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Case Histories in Pediatrics. A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis and Treatment *of the Most Important* Diseases of Infancy and Childhood. By John L. Morse, A.M., M.D., *Assistant Professor of* Pediatrics, Harvard Medical School. Cloth. Price, $3. Pp. 314, with illustrations. Boston: W. M. Leonard, 1911.

[illegible] Use and Application in the Prevention [illegible] ases. By Thomas B. McClintic, Passed [illegible] P. H. and M.-H. S. Prepared by Direction [illegible] ublic Health Bull. 42 U. S. P. H. *and* M.-H. [illegible] December, 1910. Paper. Pp. 46. Washington: Government Printing Office, 1911.

Atlas of Microscopic Diagnosis in Gynecology. With Preface and Explanatory Text by Dr. Rudolf Jolly, Priv. Doc., Chief Physician of the Gynecologic Clinic, University of Berlin. Only authorized English Translation by P. W. Shedd, M.D., New York. Cloth. Price, $5.50. Pp. 192, with 54 illustrations. New York: Rebman Co., (1911).

Tenth Annual Report of the New York State Hospital, West Haverstraw, Rockland County, N. Y., for the Care of Crippled and Deformed Children. For the Year Ending Sept. 30, 1910. Paper. Pp. 48, with illustrations. Newton M. Shaffer, M.D., Superintendent, 28 E. Thirty-Eighth Street, New York, N. Y., 1910.

Differential Diagnosis. Presented Through an Analysis of 383 Cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Cloth. Price, $5.50 net. Pp. 753, with 195 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Outlines of Psychiatry. By William A. White M.D., Washington, D.C. Nervous and Mental Disease Monograph Series No. 1. Third Edition. Paper. Price, $2.50. Pp. 272, with illustrations. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

[illegible] Physiologie. Von Dr. M. von Frey, Professor [illegible] 'orstand des physiologischen Instituts an der [illegible] Second Edition. Cloth. Price, 11 marks. [illegible] with 80 illustrations. Berlin: Julius Springer, 1911.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minn., 1905-1909. Cloth. Price, $5.50 net. Pp. 668, with 228 illustrations. Philadelphia: W. B. Saunders Co., 1911.

State of Nevada: Biennial Report of the Orphans' Home. Directions and Report of the Superintendent, 1909-1910. J. E. McKinnon, Superintendent State Orphans' Home. Paper. Pp. 29. 1911.

The Healthful Art of Dancing. By Luther H. Gulick, M.D., Author of "The Efficient Life," etc. Cloth. Price, $1.40 net. Pp. 273, with illustrations. New York: Doubleday, Page & Co., 1910

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PURULENT INFECTIONS OF THE URINARY TRACT IN INFANCY *

JOSEPH BRENNEMANN, M.D.
CHICAGO

Purulent infections of the urinary tract are by no means infrequent in infancy and early childhood. They form probably 1 per cent. of all the illnesses that bring these little patients under the physician's care. Roughly speaking, I should estimate them to be about as frequent in my own practice as meningitis. These infections still occupy rather a unique position, in that they are almost never recognized in general practice. This is not because the babies are not sick, or because the diagnosis is difficult. The babies are alarmingly ill, have long-continued high septic fevers and become emaciated and anemic to an extreme degree, and a considerable per cent. die if untreated. The diagnosis, on the other hand, is easy and positive, and can be made by any one who can recognize a pus cell under the microscope. The reason why the diagnosis is not made in these cases is that it has not yet become generally known that pyelitis, or pyelocystitis, manifests itself, *sui generis*, in infancy as a not infrequent, serious, sharply defined, and easily recognizable disease.

Forty years ago Goschler[1] wrote of these infections in association with vulvitis in new-born infants. Twelve years later Hirschsprung,[2] of Copenhagen, again spoke of them in a paper advocating the free use of diagnostic catheterization in infants. As so frequently happens, but little attention was given to the subject until Escherich[3] in 1894 emphasized it in a paper, in which he reported seven cases—and later on, fifty more—that were nearly all due to the colon bacillus. Holt,[4] Trumpp,[5] Heubner,[6] Finkelstein,[7] and many others, quickly reported further cases that confirmed these findings. In England, Box[8] and especially the great Edinburgh pediatrician, Thompson,[9] have contributed notably to our knowledge of the subject. In this country, Holt,[4] Fischer,[10] Freeman,[11] Morse,[12] Zahorsky,[13] Abt[14] and others have reported many cases and have added materially to the literature. A series of eighty cases from Finkelstein's clinic has just been reported by Friedenwald,[15] twenty-two cases occurring in the last year, at the Kinderasyl.

A most valuable statistical contribution, because it helps us to realize in some measure the extent of this disease, was given by Goeppert.[16] Two years ago he reported 126 cases that occurred in his private practice in the little town of Kattowitz, in Oberschlesien, in a period of eight years, and estimates that in the limited area of which Kattowitz is the center, some eighty cases occur annually. In the last six years more than 1 per cent. of all of the patients that came to his office were thus afflicted. There is no reason for believing that the disease is less frequent elsewhere.

The clinical picture is in its main features a fairly constant one. A female infant becomes suddenly seriously ill with a high temperature, running commonly to 103 or 104 F., not infrequently to 105 and even 106 F. Vomiting, lack of desire for food, restlessness, etc., occur, as in all high fevers. Convulsions may usher in the attack, as one might expect, though probably no more frequently than in other high fevers. Thompson[9] has especially emphasized the recurring chills as a characteristic symptom, finding them in eight out of fifteen cases, while others have not found them so frequently. The rareness of a distinct chill in early childhood makes this a valuable symptom. The respiration is often disproportionately increased and a slight cough is common. There is frequently some indigestion that can easily lead to an improper diagnosis. The child is usually rather excitable, wide awake, restless, the eyes are bright, and the face sometimes wears an anxious expression.

A striking symptom that is of considerable diagnostic value is the extreme pallor that comes after the flushed condition of the first few days. The child is either white, as shown so well in the bloodless paper-like whiteness of the ears, or else it is a grayish, ashy white.

These children are commonly very sensitive to handling, and cry when approached, and especially when made to sit up or when lifted by the shoulders. This is probably due to the fact that there is often distinct tenderness over one or both kidneys. If the trouble is unilateral the child may wince or even cry out when the affected side is palpated. Often there is distinct muscular rigidity anteriorly over the kidney. The kidney itself is rarely palpable, partly because of the muscular rigidity and partly because it is rarely enlarged sufficiently. In cases in which the pelvis becomes distended, owing to temporary obstruction of the outlet, a considerable mass may be made out that may lead to a suspicion of pyonephrosis or even appendiceal abscess. Colicky pains are not uncommon.

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* Read before the Englewood Branch of the Chicago Medical Society, Nov. 1, 1910.

1. Goschler: Paper published in 1871; quoted by Finkelstein. See Note 7.
2. Hirchsprung: Jahrb. f. Kinderh., N. F. 1883, new series, xix, 427.
3. Escherich: Ueber Cystitis bei Kindern, hervorgerufen durch Bact. Coli Commune, Mitt. d. Ver. d. Aerzte Steiermark, 1894, No. 5.
4. Holt, L. Emmett: Three Cases of Acute Pyelitis in Infancy, Arch. Pediat., November, 1904.
5. Trumpp: Jahrb. f. Kinderh., new series, xliv.
6. Heubner: Lehrbuch der Kinderheilkunde, 1903.
7. Finkelstein: Jahrb. f. Kinderh., new series, xliii.
8. Box: Lancet, London, 1908, i, No. 2.
9. Thompson (Edinburg): Clinical Examination and Treatment of Sick Children.
10. Fischer: Arch. Pediat., June, 1907.
11. Freeman: Arch. Pediat., March, 1905.
12. Morse: Arch. Pediat., 1902, xix, 461.
13. Zahorsky: Pediatrics, 1908, xx, 543.
14. Abt: Urinary Infection in Children, THE JOURNAL A. M. A., Dec. 14, 1907, p. 1972.
15. Friedenwald: Pyelocystitis in Infancy, Arch. Pediat., November, 1910.
16. Goeppert: Ueber die eitrigen Erkrankungen der Harnwege in Kindesalter, Ergebn. d. inn. Med. u. Kinderh., 1908, ii, 30.

The course of the disease if untreated is essentially chronic. The temperature persists as a septic, remittent or even intermittent fever. These cases are often diagnosed as malaria, typhoid, food intoxication, or, if the nervous symptoms are marked, as is frequently the case, as meningitis, and later, when the condition shows no tendency to improvement, as a chronic tuberculosis of uncertain localization. In many cases the disease becomes distinctly intermittent; days, weeks, or even months of normal temperature and general well being, with rapid gain in weight, will separate periods of a week or of several weeks of high fever and all the other symptoms of a fresh acute infection. In one case that occurred early in my practice which I failed to diagnose, I had a favorable opportunity to observe this condition. Four or five distinct relapses or exacerbations occurred during a period of about four months, each lasting from one to three weeks with a general tendency to greater severity, and a more prolonged course in each new attack.

From the clinical course so far, it is evident that these cases do not differ sufficiently from other acute and chronic infections of various kinds so that they can be diagnosed readily from this alone. The positive diagnosis is made when pus is found in the urine. The amount of pus varies much in different cases and in different specimens from the same case. Commonly the urine appears turbid, sometimes even thick and milky. A nearly normal specimen may precede or follow one that is loaded with pus on account of a temporary obstruction of the ureter of the affected side. Microscopically, pus-cells singly and in clusters usually pack the field. Goeppert[16] has suggested an arbitrary minimum diagnostic standard of six to eight leukocytes in each field of an uncentrifuged specimen. Bladder and renal epithelium are present in varying degrees. Albumin is always found if there is enough pus. If it is out of proportion to the amount of pus, it speaks for an involvement of the kidney itself, a pyelonephritis. Casts are not found unless there is a complicating nephritis. The urine is almost invariably acid when first passed always in colon infections, and contains large numbers of long bacilli.

In some cases there is apparently a bacteriuria rather than a pyuria. In these the urine swarms with bacteria; usually colon bacilli and few pus and epithelial cells are found. In some of these, as in ten cases described by Mellin,[17] there were *no* constitutional symptoms, and one can hardly believe that we have here to deal with an inflammatory process, but rather with a simple multiplication of bacteria in a favorable medium. In others, which present constitutional [illegible] pallor, loss of appetite, etc., as in [illegible] there is doubtless a true inflammatory process with but little formation of pus. These cases are rare and little is known about them. I have seen *one* case that apparently came in this catagory. The child seemed clinically to have a severe case of pyelitis; the acid urine showed almost no pus but teemed with bacilli.

Frequent urination and tenesmus seem to occur in only a small proportion of cases and can hardly be accorded much, if any, diagnostic significance. In one case in which Thiemich found a marked cystitis at autopsy, no history of these symptoms was obtainable during life. When we consider furthermore how frequently mothers tell us that their babies "wet every few minutes" or that they cry before, during, or just after urinating, without any demonstrable lesion, it is evident that these symptoms are peculiarly unreliable in an infant.

When we sum up the clinical picture of this disease we are struck by the fact that the great majority of these infants give no single physical sign or symptom that points positively to the kidney or bladder as the site of the trouble, until we examine the urine.

ETIOLOGY

Pyelocystitis is characteristically a female disorder. I have myself never seen it in a male infant. Goeppert,[16] whose statistics are relatively higher than those of others, but whose larger material has especial value, found 10 per cent. of his cases in boys and 90 per cent. in girls. In Finkelstein's[15] series 27 per cent. were males, showing that males are much more commonly affected than was formerly believed, or else, as seems more probable, that the conditions in a foundling home are different from those of private practice.

The great majority of these cases occur during the first year, with especial predilection for the second and third quarters of the first year (Goeppert[16]) or according to Finkelstein's[15] series the first quarter. After the second year they are relatively rare and probably approach the adult type.

This infection takes place more frequently during the summer months. This at once suggests a connection with summer diarrhea, and it is a significant fact, as will be seen later, that many of these cases are preceded by a food disturbance. Social status has less significance than one would expect, and I have been struck with the number of cases that occur in which the babies are under ideal surroundings as to care and cleanliness.

The *Bacillus coli communis* is the direct cause in the great majority of cases, in about 97 per cent. of both Escherich's and Goeppert's series. In the remaining cases one or the other of the common pyogenic bacteria is the cause.

PATHOLOGY

The pathology is still variously interpreted. Escherich[3] in his first paper considered the disease purely a cystitis. Finkelstein[7] and Trumpp[5] both retained this term but in a limited number of cases were able to demonstrate post mortem that the pelvis of the kidney was likewise involved. Heubner[6] first distinguished between a cystitis and a pyelitis and retains this classification in his text-book. Goeppert,[16] who has had apparently very few if any autopsies, chooses to call the disease "pyelocystitis with especial emphasis on the first syllables" and thinks that in most cases the pelvis and bladder are involved, but that the pyelitis is the important lesion in the great majority of cases, and that only exceptionally does a cystitis dominate the picture. Thompson[9] and Still[18] consider the disease a pyelitis. American authors commonly speak of the disease as pyelitis, or pyelocystitis. In twenty autopsies of Finkelstein's series fifteen cases showed involvement of both bladder and pelvis of the kidney; three of the pelvis, and one of the bladder alone.

A most valuable contribution to the subject has just been made by Thiemich[19] of Magdeburg. From a series of autopsies he establishes the fact that in a certain proportion of cases there are found post mortem as the dominating lesion multiple, minute abscesses of the cortex of the kidney, sometimes radiating toward the pelvis as fine lines. He reports three autopsies in boys and three in girls in which this condition was present, and in which the inflammation of the pelvis or bladder was so slight that it was almost unrecognizable. The fact that he has found this condition so frequently post mortem does not establish its relatively frequent occurrence, because it is only in these severer cases that patients die of the disease itself; the others do not come to the post-mortem table. Nearly half of the autopsies reported by Friedenwald[15] in Finkelstein's series belonged to this type, showing miliary abscesses in the cortex, and kidney substances, as well as a catarrhal condition of the pelvis and bladder.

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[17] Mellin: Quoted by Langstein in Pfaundler and Schlossmann's Handb. der Kinderh., first German edition, 1906, p. 578.

[18] Still: 'Common Disorders and Diseases of Childhood, 1909.

[19] Thiemich: Ueber die eitrigen Erkrankungen der Nieren und Harnwege in Saüglingsalter, Jahrb. f. Kinderh., September, 1910, 72 d. Dritten Folge, xxii, 243.

From a pathologic standpoint there are, then, two types of the disease: 1. The great majority of the cases are catarrhal infections of the bladder and pelvis of the kidney; i. e., pyelocystitis. These are of all degrees of severity but are generally benign and occur almost exclusively among girls. This is the type commonly seen.

2. The severe type that affects children of lowered resistance, due to some infection or food disturbance, in which the cortex of the kidney is studded with miliary abscesses, and in which the involvement of the pelvis or bladder is of less importance; i. e., a pyelonephritis.

The pathogenesis offers an interesting field for speculation. The fact that nine out of ten of these cases, perhaps ten out of ten of the ordinary type of pyelocystitis, occur in females demands an explanation. If we combine this with the further facts that 97 per cent. of these cases are due to the colon bacillus, and that 60 per cent. of Goeppert's cases occurred during the first year, 80 per cent. during the first eighteen months, and 90 per cent. during the first two years, and 92.5 per cent. of Finkelstein's cases during the first year, i. e., during the diaper age, an explanation thrusts itself on us. If one bears in mind the extreme shortness of the infantile female urethra, and then sees such a little girl "changed" after she has had a very soft or liquid bowel movement that floods the vulva and is pressed against the urethral outlet, there is little difficulty in believing that colon bacilli are carried through the urethra to the bladder and there set up an inflammation that in turn is carried to the pelvis of the kidney. The frequent association of this disease with diarrhea adds to the plausibility of this view.

While an ascending infection of such an origin has seemed the most reasonable explanation of pyelocystitis, there can be little doubt that the cases of pyelonephritis described by Thiemich[19] and Friedenwald,[15] with cortical abscesses as well as catarrhal involvement, are of hematogenous origin. Whether this mode of origin plays any considerable part in the former type remains to be determined. It would be very instructive to know whether the colon bacillus is as frequent, relatively, in the cases of pyelonephritis as in those of pyelocystitis. A third possible source of infection has been suggested—that of direct migration of the colon bacillus from the intestinal to the bladder wall.

DIAGNOSIS

The diagnosis of pyelocystitis is made when a sufficient amount of pus is found in the urine, at least six to eight leukocytes, to the field of a non-centrifuged specimen. One must always remember that a single specimen may be nearly normal, and in every suspected case repeated examination should be made. The possibility of contamination with vaginal discharge or with feces must be guarded against in an infant. An exact anatomic diagnosis can hardly be made, since ureteral catheterization is not feasible. The milder cases may be a simple cystitis; the severer cases, with high fever and serious constitutional symptoms, are probably nearly all cases of pyelitis or pyelocystitis; the rarer severe cases which complicate other conditions, which do not yield to treatment, and in which a larger amount of albumin is found in the urine than one would expect from the amount of pus, probably belong to the type of pyelonephritis. An examination of the pus and epithelial cells gives but little if any practical assistance in an accurate anatomic diagnosis.

The greater difficulty in procuring a specimen of urine in an infant is one reason why urinalysis is more often neglected than in the adult. And yet this difficulty can always be overcome and is no excuse for a failure to examine the urine. Specific directions must be given to insure success. In the male child a rubber finger cot or condom can be left in place until the child urinates. In both sexes, in older infants, if the child is quickly placed on a chamber, after a long nap it will usually urinate. If this is not successful, the infant can be washed clean and left until it urinates on a clean rubber sheet or oil-cloth, so arranged that the lowest part is in the region of the buttocks. If there is a diarrhea, or if this method cannot be employed for some other reason, then the mother or nurse can watch the exposed baby, cup in hand, until the moment arrives when the urine can be caught. This may be tedious, but it is important. Finally, if these methods fail, or if one wants an uncontaminated specimen for bacteriologic examination, the catheter with proper aseptic precautions can be freely used, as urged by Hirschsprung[2] thirty years ago. The use of a mass of cotton cannot be recommended, as it is apt to sift out many of the pus-cells, and is otherwise not as serviceable as the other methods.

While a urinalysis is imperative for a positive diagnosis, in many cases after a little experience a fairly certain diagnosis can be made without it. A persistent high temperature in a female infant, sensitiveness, a striking ashy pallor, the occurrence of chills, with practically no physical findings to point to any localization, indicate with a great deal of probability a pyelocystitis. The utter disproportion between the severity of the disease and the physical findings is strongly diagnostic.

PROGNOSIS

In the ordinary type, that of pyelitis or pyelocystitis, which forms the great bulk of these cases, the prognosis is distinctly favorable. In some fifteen cases that I have seen no patient has died.[20]. In Goeppert's[16] cases, on the other hand, the mortality was 12 per cent., or, if one includes three cases in which the urinary infection was only partially the cause of death, and three others that left treatment in a critical condition, the mortality was even 20 per cent. Such a mortality requires qualification. The prognosis of these cases depends materially on the treatment. If the patients are untreated, the prognosis is bad; if they are properly treated, it is very good. Goeppert's cases were practically all among private office patients, the majority of these among the poorer classes, among whom a rigid, persistent treatment was impossible. His mortality statistics cannot therefore be applied to more favorable conditions.

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[20] Since writing this I have had a fatal termination in an infant of 3 months.

Friedenwald[15] speaks of twenty autopsies in Finkelstein's series of eighty cases, a mortality of 25 per cent. From the nature of the material probably only a proportion of the patients died of the disease itself. Deductions from the morbidity of a foundling asylum would not apply to private practice. The pyelonephritis cases offer a more gloomy prognosis, partly because of the seriousness of the lesion, partly because of the previous weakened condition of the child. These cases are not hopeless, however, since there is a natural tendency to arrest, resorption, and cicatrization of the little abscesses, and very little tendency to the formation of large abscesses that would require surgical treatment. It is hard to believe that these cases occur in any considerable number, and in general one is justified in saying that the prognosis of the urinary infections in early childhood is distinctly good as to life and cure, though many of them drag along for months.

TREATMENT

There is little that can be offered in the way of prophylaxis, except local cleanliness, the avoiding of diarrheas and infections and the maintaining of the general health at a high level.

After the disease is established the child should be kept quiet, its diet should be watched carefully, and it should be given an abundance of liquids, especially water or alkaline waters, to flush the urinary tract.

The English writers, especially Thompson[9] and Still,[18] give large doses of alkalies, especially potassium citrate, half a dram to a dram or more a day in divided doses. Thompson's[9] statement is well worth quoting:

> The main and the only essential treatment consists in rendering the urine neutral, when passed, by the administration of alkaline remedies, as speedily as possible, and in keeping it so until all the symptoms have disappeared. When this indication is thoroughly carried out, its good results are very remarkable. The pain and uneasiness rapidly vanish and the temperature falls to normal within three days. The pus cells also disappear. The bacteria, however, may persist for a long time after the pus has gone; but they seem to do no harm. . . . The alkaline treatment must be continued for a week or two at least, in spite of the depressing effect which it has on the child's general condition and the loss of appetite which it is apt to occasion. If it is stopped too soon the symptoms return.

Nearly all German and American clinicians depend on urinary antiseptics, hexamethylenamin (urotropin) and phenyl salicylate (salol), as of first value, and recommend alkaline drinks as of value in diluting and possibly alkalinizing the urine. Heubner[6] warmly recommends hexamethylenamin in doses of 1 to 2 grains three times a day. Finkelstein prefers salol. Goeppert uses salol in all acute cases, in doses of 1 to 3 grains five to eight times a day for ages varying from two months to two years, and finds, "as early as thirty hours after its administration a decided improvement in the general condition." After the acute stage he uses hexamethylenamin and throughout urges the ingestion of large amounts of water, especially alkaline waters, even giving it by gavage and enema if not well taken by mouth. He expects a cessation of fever and of discomfort in the first two or three weeks and a pus-free urine in five weeks, and maintains that many cases get well in five to eight days.

Such rapid improvement has not been the rule in my own experience. Many of the cases drag along for months, often with distinct intermissions, in spite of any treatment. Ultimately the patients are cured clinically, in nearly all cases. My own procedure is to crowd water in every way, to try alkalies first, and if there is not a decided improvement in a few days, to substitute hexamethylenamin, or salol in doses of 1 to 2 grains every three or four hours to an infant 1 year old and to keep this up for a long time to avoid the relapses that are only too common.

The severer cases with cortical abscesses, of course, are influenced but little by any of these remedies. They require also treatment of the underlying condition and general tonic and supportive measures.

In conclusion, permit me to emphasize the one important point in the subject that I have discussed: In every child, and especially in every female infant, that has a continuous or intermittent high temperature, the cause of which is not clinically obvious, an examination of the urine for pus is imperative.

4632 Lake Avenue.

THE ESOPHAGOSCOPE IN REMOVING SHARP FOREIGN BODIES FROM THE ESOPHAGUS

WILLIAM LERCHE, M.D.
ST. PAUL, MINN.

The impaction of sharp foreign bodies in the esophagus is of comparatively frequent occurrence, but the rational treatment thereof—the extraction by esophagoscopy—has apparently not received the attention that it deserves.

The esophagus at times seems remarkably tolerant to the presence of foreign bodies; in some instances such bodies have remained in the organ for years. On the other hand, cases are on record in which death has followed in twenty-four hours after the accident.

Any foreign body lodged in the esophagus should be promptly removed, but I wish particularly to call attention to the danger of procrastination when we have a sharp foreign body to deal with.

It has been my fortune to relieve a number of patients who have accidentally had foreign bodies impacted in the esophagus. Those which I have extracted have been of various kinds, but pieces of bone have impressed me as being particularly dangerous.

SYMPTOMS AND TREATMENT

Pain and difficulty in deglutition and tenderness of the neck, with rise in temperature, are the main symptoms of a sharp foreign body in the cervical part of the esophagus. If a perforation of the esophageal wall has taken place in the cervical part there will be an emphysematous condition of the neck. When the foreign body has become impacted in the thoracic part of the esophagus there may be pain and difficulty in deglutition, but it must be kept in mind that there may be no symptoms whatever until perforation takes place.

As the first step in treatment, the pharynx, the pyriform sinus and the inlet of the esophagus is anesthetized with a 10 per cent. solution of cocain, and the esophagoscope, without the obturator, is introduced under the guidance of the eye. When the foreign body comes into view its position is noted, and with a special forceps it is carefully dislodged and extracted. Esophagoscopy generally ought to be done without the aid of an obturator, in order to enable the operator to inspect the entire tract through which the instrument passes, but that is a matter of choice. In case of sharp foreign bodies, however, the obturator must never be used, because damage may be done to the wall of the esophagus by pushing on the sharp foreign body. For the same reason the bougie, the probang, and similar instruments must be condemned. It will readily be seen that additional injury might be done in a case like my Case 2, reported below, the actual condition of which is pictured in Figure 6, if an instrument is introduced blindly. The use of a sound or bougie for diagnostic purposes may be deceiving, as these instruments, in several instances, have failed to demonstrate the presence of even a large foreign body. The forceps used for the extraction of foreign bodies belongs to a set of instruments, which I have devised for esophagoscopic and bronchoscopic work.[1] When the foreign body has been caught in the forceps the instrument can be locked.

Fig. 1.—Piece of mutton-bone (actual size) removed from patient's throat (Case 1).

Fig. 2.—Beef-bone (actual size) removed from patient's throat (Case 2).

It may be necessary to cut or break the foreign body before it can be extracted, and for that purpose Kahler's forceps is useful. Thus a tooth-plate impacted in the esophagus can be reduced in size by cutting with Kahler's forceps, or it can be burnt through by a specially made galvanocautery point or snare.

The accidental swallowing of an open safety-pin is not infrequent. The pin enters the esophagus with the point upward, and traction on the pin in the latter direction would naturally force the point into the esophageal wall. For the purpose of closing the open safety-pin *in situ* and extracting it through the esophagoscope I have devised an instrument shown in Figure 7. The instrument is introduced with the wire loop C withdrawn. When the latter is below the safety-pin the wire loop is pushed out by pressing the lever on the handle and pulled up on the open pin. The steel wire B with the hook D on the distal end is now pushed down and turned on to the pin, after which the loop is closed, locking the pin. The steel wire with the hook prevents the safety-pin from slipping up when the loop closes in on it.

If the foreign body has perforated the wall of the esophagus and caused a periesophageal abscess in the cervical part, the use of the esophagoscope is contraindicated. Such an abscess must be dealt with from without, and as early as possible in order to prevent the burrowing of pus into the posterior mediastinum. If the foreign body has perforated the thoracic part of the esophagus and caused a mediastinal abscess, the use of the esophagoscope is imperative before opening the mediastinum in order to determine on which side the abscess is located. A case illustrating this point is reported in recent German literature, in which the posterior mediastinum was entered without finding the abscess. Post mortem the abscess was found to be in the mediastinum on the opposite side. It was shown that this could have been determined by esophagoscopic examination before the operation.

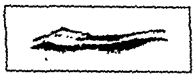

Fig. 3.—Fish-bone (actual size) removed from patient's throat (Case 3).

Fig. 4.—Fish-bone (actual size) removed from patient's throat (Case 4).

To perform esophagotomy in case of impacted foreign body, before extraction by the esophagoscope has been tried, is not justifiable for the reason that esophagotomy for the removal of foreign bodies has considerable mortality. In 326 cases of external cervical esophagotomy for the removal of foreign bodies collected by Balacescu and Kohn,[2] the mortality was as follows:

In the pre-antiseptic era (prior to 1880)	26.5 per cent.
In the transitional stage (1880-1890)	27.8 per cent.
In the antiseptic era (1890-1900)	17.8 per cent.
In the aseptic era (1900-1903)	12.6 per cent.

Nauman[3] has later collected forty additional cases with a mortality of 17.5 per cent.

REPORT OF AUTHOR'S CASES

Case 1.—Mrs. F. T., aged 45, had swallowed a piece of mutton-bone which lodged in the throat forty-eight hours previous to consultation. Swallowing had been very painful since. Esophagotomy had been advised before the patient was referred to me. The neck was very tender on palpation, especially on the left side. No emphysema of the neck. Temperature was 102 F. After cocainizing the throat the esophagoscope was introduced and the bone found in a slanting position in the middle of the cervical part of the esophagus, the lower end being embedded in the mucosa. The bone was grasped by the forceps and quickly extracted. It was 2 cm. in length and very sharp at both ends (Fig. 1). Recovery ensued.

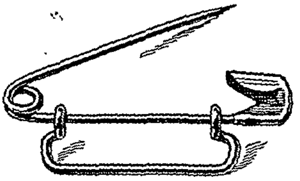

Fig. 5.—Safety-pin (actual size) removed from patient's throat (Case 5).

Case 2.—Mrs. L. A., aged 58, while taking her evening meal three days previously to consultation, had swallowed a piece of beef-bone, which stuck in her throat. The neck was very tender to touch, more so on the right side, and the patient suffered great pain on swallowing. There was no emphysema of the neck. The temperature was 103 F. Through the esophagoscope the bone was seen crossways in the lower cervical part of the esophagus, with both ends buried in the wall (Fig. 6). When it was extracted foul-smelling pus welled up from the right wall. The piece of bone measured 18 mm. in length, was rough and sharp at both ends (Fig. 2). Pus discharged through the mouth for some time. On esophagoscopic examination a few weeks later the abscess cavity, which evidently had been in the submucosa, had closed. Recovery ensued.

Case 3.—A. J., aged 65, had had a fish-bone lodged in his throat eight hours previous to consultation. Some blood came up shortly after the accident. Deglutition was painful. No emphysema of the neck existed. Esophagoscopic inspection disclosed the fish-bone in the lower cervical part of the esophagus. It was removed by forceps. The lower end of the bone was engaged in the mucosa. It was quite stout, sharp, and 16 mm. long (Fig. 3). Recovery occurred.

Case 4.—C. D., aged 25. A fish-bone lodged in the patient's throat seven hours previous to consultation. Deglutition was quite painful. There was no emphysema of the neck. Esophagoscopy revealed a bent fish-bone, with the convexity upward, in the cervical part of the esophagus. The bone was easily extracted (Fig. 4). Recovery.

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[1] Illustrations of these instruments appeared in my article, Contribution to the Surgery of the Esophagus, Surg., Gynec. and Obst., October, 1910.

[2] Balacescu and Kohn: Arch. f. klin. Chir., 1904, lxxii, 408.

[3] Nauman: Deutsch. Ztschr. f. Chir., 1906, lxxxiii, 479.

Case 5.—A girl, aged 2, swallowed an open garter safety-pin four hours previous to consultation. The child was crying constantly. Respiration was normal. The esophagoscope was introduced without the administration of an anesthetic, and the lock end of the pin was seen at the inlet to the esophagus with the point imbedded in the anterior wall. The point was dislodged and the pin extracted (Fig. 5). Recovery.

In the first four of these cases the foreign bodies were removed quite readily. Case 5, on the other hand, was very difficult, because the safety-pin was a large one with a strong spring; furthermore, the point was well engaged in the wall and the garter-buckle increased the difficulty to a considerable degree.

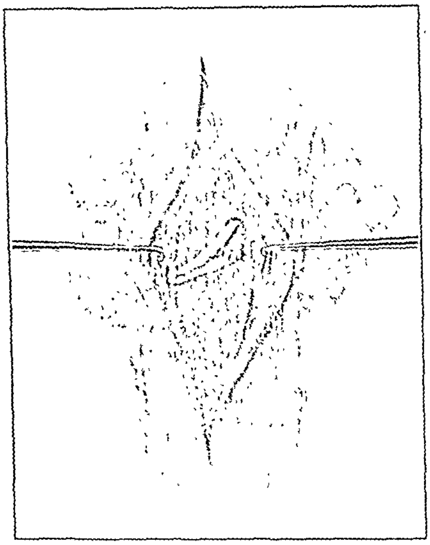

Fig. 6.—Piece of beef-bone, 18 mm. in length (shown in Fig. 2), lodged in patient's throat (Case 2).

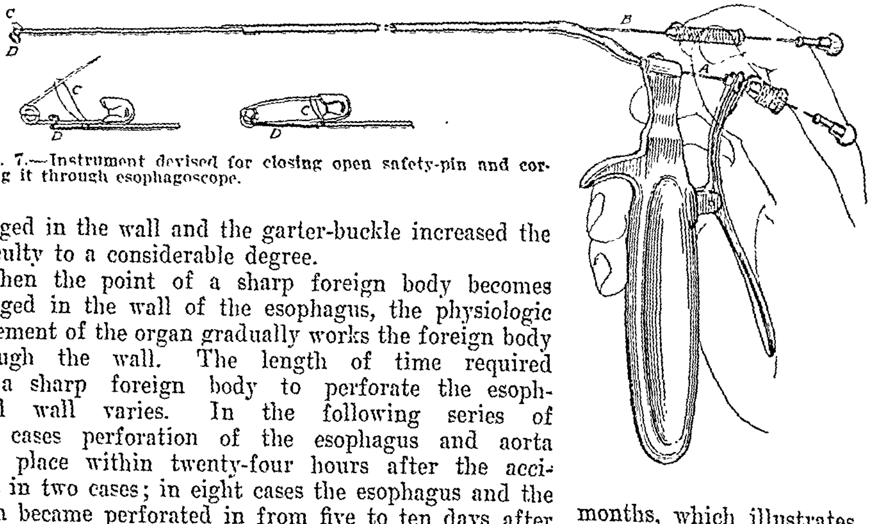

Fig. 7.—Instrument devised for closing open safety-pin and correcting it through esophagoscope.

When the point of a sharp foreign body becomes engaged in the wall of the esophagus, the physiologic movement of the organ gradually works the foreign body through the wall. The length of time required for a sharp foreign body to perforate the esophageal wall varies. In the following series of 200 cases perforation of the esophagus and aorta took place within twenty-four hours after the accident in two cases; in eight cases the esophagus and the aorta became perforated in from five to ten days after the accident. There have been no deaths among the patients whom I have treated.

CASES FROM THE LITERATURE

In order to ascertain the fate of swallowed foreign bodies in a larger number of cases, I have collected reports of 200 cases from literature since the year 1900. In these my own cases are not included.

The mortality in the 200 cases was 12.5 per cent (twenty-five deaths), of which twenty-three deaths, or 11.5 per cent, were due to perforation of the esophagus with its consequences.

The seat of perforation was:

Upper thoracic part in	15 cases
Cervical part in	5 cases
Lower thoracic part in	1 case
Location not mentioned in	2 cases

(The aorta was perforated in twelve cases, and the common carotid artery in one case.)

The foreign bodies causing perforation and death were:

Piece of bone in	10 cases
Pins and needles in	4 cases
Coin in	3 cases
Fish-bone in	2 cases
Tooth-plate in	2 cases
Iron-washer in	1 case
Brooch in	1 case

Splinters of bone caused the highest mortality in the cases collected by me, and in the series of Balacescu and Kohn, above referred to, twenty-two patients out of seventy-nine who had splinters of bone impacted, died after esophagotomy.

There were no deaths in the forty-seven cases in which the foreign body was removed by esophagoscopy except one, in which previous attempts had been made to extract the bone with the coin-catcher. These attempts had caused a long rent in the wall of the esophagus followed by mediastinitis and death.

There were forty-one different kinds of foreign bodies, of which the following were the most frequent:

Tooth-plate in	41 cases
Piece of bone in	34 cases
Coin in	26 cases
Pins and needles (common pins, scarf-pins, hat-pins, darning-needles, etc.)	22 cases
Open safety-pin in	18 cases
Fish-bone in	4 cases
Metal whistle in	7 cases
Metal button in	5 cases
Piece of wood in	4 cases

The location of the foreign body in the esophagus was mentioned in 118 cases as follows:

Cervical part in	58 cases
Upper thoracic part in	33 cases
Lower thoracic part in	27 cases

Tooth-plates were the most frequent foreign body impacted in these series. Nine tooth-plates were passed per rectum, thirteen were removed by esophagotomy, eleven by esophagoscopy, five by gastrotomy, etc.

In several of these cases the plate had remained in the esophagus for many months, which illustrates what a remarkable tolerance the organ occasionally will exhibit. In one case a tooth-plate remained above the cardia for several months without symptoms, then distress and pain occurred. Death followed operation. In another case the plate remained in the esophagus for eighteen months before it perforated the bronchus; after operation, death occurred. Another patient was relieved of an impacted tooth-plate eleven months after by combined gastrotomy and esophagotomy. One case is reported in which a tooth-plate remained in the upper thoracic part of the esophagus for four months, causing a perforation into the trachea. The plate was then extracted and gastrostomy performed.

The tracheo-esophageal fistula subsequently healed. Recovery.

The methods of treatment used in these cases collected by me were:

Esophagoscopy in	47 cases
Esophagotomy in	27 cases
Gastrotomy in	10 cases
Esophagotomy and gastrotomy in	2 cases
Esophagotomy and esophagoscopy in	1 case
Coin catcher in	12 cases
Probang in	5 cases

The longest time a foreign body remained in the esophagus before being successfully extracted was four years. In one case a coin remained four and one-half years in the esophagus; then it caused perforation and death.

The youngest patient on whom esophagoscopy was performed was 4 days old (extraction of a rubber nipple). The oldest patient on whom I personally have performed esophagoscopy was 86 years old.

Besides the twenty-three cases of perforation of the esophagus in these series, there were eighteen cases of perforation of the abdominal or pelvic viscera, with two deaths.

CONCLUSIONS

1. Esophagoscopy is not a difficult procedure, and it gives the best results in the treatment in these cases, with the least discomfort to the patient.
2. The use of instruments in the esophagus, except through the esophagoscope, in case of sharp foreign body, should be abandoned.
3. In every case in which the swallowed foreign body is not recovered, an esophagoscopic examination of the esophagus should be made.
4. Even if the foreign body is successfully pushed into the stomach, the patient is not entirely beyond danger.

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GRAVES' DISEASE

A NEW PRINCIPLE OF OPERATING BASED ON A STUDY OF 352 OPERATIONS *

G. W. CRILE, M.D.
CLEVELAND

Among 219 operations for colloid goiter and benign tumors I had two deaths, one from suppression of urine, the other from myocarditis after healing had occurred. I shall not allude to the malignant and infection cases. My study is of 121 operative cases of exophthalmic goiter, particularly an inquiry into the cause of operative hyperthyroidism, and into the development of a safer technic.

CHANGES IN THE BRAIN CELLS IN A CASE OF GRAVES' DISEASE

In a case of Graves' disease, the patient being unoperated on and free from infection, which ran a natural course to its termination in death, a pathologic examination of the brain and cord was made by Dr. J. B. Austin. The following is his summary:

> In the cord but slight changes were seen; in the medulla there was considerable chromatolysis, the Nissl granules were in moderately fine division, and the nucleus plasma relation was changed; in the cerebellum approximately 30 per cent. of the Purkinje cells were seriously altered and many were destroyed; in the cortex there was marked chromatolysis, the nucleus plasma relation was disturbed and many cells were destroyed. A detailed report will be made elsewhere.

THE CAUSE OF THE SPECIFIC REACTION—HYPERTHYROIDISM—FOLLOWING OPERATION FOR GRAVES' DISEASE

In operations in exophthalmic goiter, the principal risk is an acute exacerbation of the disease, usually called hyperthyroidism, the most conspicuous symptoms being tachycardia, high fever, restlessness, tremor, and finally delirium. Against this risk there is at present no known specific remedy. Were it not for this uncontrollable outburst, the operative risk would be but slight. Surgeons agree that there is a group of cases so severe that an adequate operation cannot by any method be performed safely. It is the purpose of this paper to present a new principle of operating whereby this group of cases may, I hope, be reclaimed. If we are to operate safely we must change our method. To this end we shall first inquire into the cause of the acute hyperthyroidism produced by the operation itself. Resolving the operation into its principal component parts, we have the rôle played by (1) hemorrhage; (2) infection; (3) manipulating and cutting the thyroid; (4) the anesthetic; (5) the psychic disturbances; and (6) the operative trauma to tissue other than that of the thyroid, as factors in the consideration of hyperthyroidism.

HEMORRHAGE AND INFECTION

I have seen acute outbursts of Graves' exacerbation follow a bloodless technic in lobectomy and in simple ligation. Hemorrhage is not, then, an adequate cause.

Infection almost never occurs; Graves' exacerbation frequently occurs. Infection may be excluded.

ABSORPTION OF THYROID SECRETION FROM HANDLING OR CUTTING THE THYROID TISSUE

Patients with exophthalmic goiter are abnormally susceptible to thyroid extract. Serious exacerbation and death have followed a single therapeutic dose of the extract. May there not be an increased absorption of thyroid secretion produced by cutting or handling the thyroid? If so, the secretion must be liberated either by manipulation of the gland or by its discharge from the cut surface. In a serious case I have known the patient to be repeatedly and thoroughly massaged by an osteopath without producing a marked increase in the symptoms. I have never observed an exacerbation follow the physical examination of the gland. In the first instance—the massage—at least, there was certainly more mechanical disturbance than was caused by the very gentle manipulation of the gland in the ligation of a single superior thyroid artery in one emaciated patient, when there followed a fatal outburst of hyperthyroidism. Moreover, Kocher, the creator of the surgery of the thyroid, as a routine measure crushes with a heavy forceps a zone of the gland prior to its ligation and division. He notes no increased hyperthyroidism resulting. In several excisions, in which other factors were excluded and in which there was a certain amount of handling, but trifling reaction followed. At least gentle handling must therefore be but a minor factor.

Is there an increased discharge and absorption of the thyroid secretion from the cut surface of the gland? I

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

have seen no diminution of reaction when the cut surface was immediately treated with pure phenol and alcohol; when immediately seared over with the actual cautery; when the division was made between ligatures; and when the wound was left open and the raw surface was covered with a large gauze pack. On the other hand, I have seen the usual reaction when there was no raw surface left in any part of the wound; and finally I have seen no more reaction when the presumably preventive measures were all omitted. It would appear, then, that the "raw surface" and "squeezed juice" hypothesis do not adequately explain operative hyperthyroidism.

THE ANESTHETIC

Kocher and his school operate under local anesthesia, believing that despite the ordeal there is less reaction following. Mayo and many other Americans use general anesthesia. At first glance it might seem that one or the other method should be the better and should be the method of choice. It can be shown later, I believe, that each has its own field, and that neither can supplant the other.

In several desperate cases, in which the margin of safety of the patients was tested by anesthetizing, without the patients' knowledge, with ether or with nitrous oxid, there was a moderate though short exacerbation of Graves' symptoms following both modes of anesthesia, though more marked in the case of ether. In all cases there is, during the transit from primary to surgical anesthesia, a stage of unpreventable subconscious excitement during which the heart-beat is quickened, respiration is accelerated and in which muscular disturbances may occur. Test doses of morphin and scopolamin, though in certain respects unfavorable, have produced no corresponding exacerbation of symptoms. In severe cases, on the other hand, ligation of the upper poles under local anesthesia, with exclusion of the psychic factor, caused no appreciable reaction. Hence I conclude that general anesthesia, *per se,* contributes a minor factor, and local anesthesia, *per se,* no factor in the production of the specific reaction in Graves' disease.

PSYCHIC FACTOR

Fear may temporarily paralyze normal animals and men. Even death has been caused by fear. It occurred to me that the brain-cells of an animal in intense fear might show physical changes. Accordingly Dr. J. B. Austin and Dr. H. G. Sloan made such observations for me on frightened rabbits. A study of the central nervous system showed the following:

> The cells of the brains that were secured in the midst of fright showed marked hyperchromatism; those that were taken several hours later showed marked chromatolysis, a disturbance of the nucleus plasma relation, and some broken-down cells. The spinal cord showed but slight changes, the medulla more and the cerebellum and cerebral cortex most. These experiments will be elsewhere reported in detail.

The potent influence of the psychic factor in exophthalmic goiter is admitted. This factor alone has caused death in serious cases under both medical and surgical auspices. However, if the surgeon has permission to use his discretion as to the fact as well as to the time of operation, the dangerous psychic factor may be eliminated. The employment of the technic, which will be elsewhere described, by which the exclusion of the psychic factor is effected, enables the surgeon to operate with less reaction in the "fair risks" and to undertake successfully more serious risks, but serious reactions are often seen despite the total exclusion of the psychic factor.

Recapitulating, then, it may be stated that the specific reaction or hyperthyroidism following operation is not due to hemorrhage, to infection, or to an excessive absorption of thyroid secretion from cutting or at least gentle handling of the gland; that it is somewhat influenced by the general anesthetic and markedly influenced by the psychic factor. There still remains the occurrence of specific Graves reaction not accounted for by the factors thus far considered. The only other factor left is the operative trauma of the tissue of the thyroid, and all other tissue as well.

Is the reaction in Graves' disease in cases of trauma of other parts of the body different from that of the normal organism? Barton Cooke Hirst collected and studied reports of 71 operations on various parts of the body other than the thyroid gland in patients suffering from Graves' disease. Many were minor operations, and on the whole the operative risk, had the patients not had Graves' disease, could not have been over 1 per cent. The mortality rate was over 15 per cent. The cause of death in every instance was hyperthyroidism. This table shows that the surgical risk in Graves' disease is as great in operations on other parts of the body as on the thyroid itself, and that the cause of the so-called hyperthyroidism must be found outside of the thyroid gland. My personal cases show a remarkable reaction to trauma. In one patient—a seriously sick one, it is true—a simple hypodermic injection of salt solution, given as a test, caused a psychic storm attended by a leap of the pulse from 140 to 186, with acute cardiac dilatation, trembling, sobbing, rise in temperature, almost overwhelming the patient and lasting over four hours. This is typical though extreme. An analysis of the phenomena will disclose the remarkable fact that the reaction from the mere prick of a sharp needle was perhaps greater than that following a hysterectomy or an amputation in the normal individual, perhaps a thousandfold greater reaction than normal. This is another way of saying that patients with exophthalmic goiter are hypersensitive to trauma just as they are hypersensitive to fear; and fear and trauma are phylogenetically close akin. Possibly this is the master key to our problem.

Arguing from the foregoing hypothesis, I then devised a technic for simple ligation and for excision. A careful inventory is first made of the pathologic physiology of each case. This usually requires several days. During this time a concerted effort is made by nurses and staff to instil hope and confidence into the patient. After such study of the case the type of operation—simple ligation or excision—is decided on.

If excision is to be the procedure the following routine is approximately followed:

> The patient's reaction to small doses of morphin and scopolamin is ascertained. Daily inhalations, which are presumably for some medicinal purpose, but which are precise rehearsals of ether anesthesia, are practiced by the anesthetist, Miss Hodgins. Ether is tentatively dropped on the inhaler along with the volatile oils, and the patient is cautiously, without her knowledge, tried out as to ether anesthesia—sometimes is completely anesthetized—all this in her own bed. The results are then studied and if the patient seems unsuited for the operation of excision, ligation is done as later described. If the central nervous system and heart take the practice march well, the entire operation is then performed as follows: Long previous consent to an operation having been obtained, the patient is given morphin and scopolamin on the appointed morning, is kept absolutely quiet, is then gently

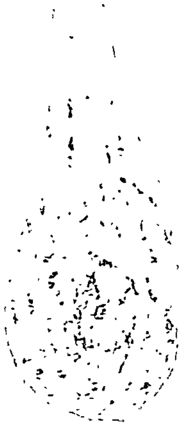


Fig. 1.—Experiment 87. From a case of exophthalmic goiter. The cell has lost almost all its chromatin. The nuclear membrane is ruptured and the nucleolus is breaking down.

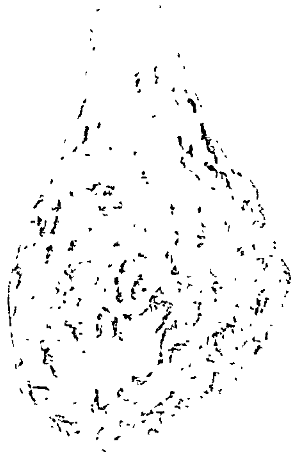


Fig. 2.—Experiment 87. Completely exhausted Purkinje cell. Nucleolus is broken down and the cell is greatly increased in size. From a case of exophthalmic goiter.

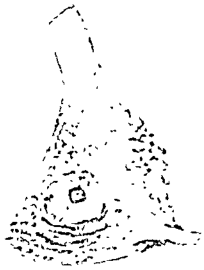


Fig. 3.—Experiment 87. Pyramidal cell from the motor cortex in a case of exophthalmic goiter. Marked loss of chromatin; ruptured nuclear membrane, and a nucleolus which is beginning to break down.

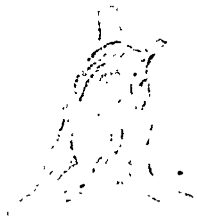


Fig. 4.—Experiment 87. From a case of exophthalmic goiter. Pyramidal cells from the motor cortex. A completely exhausted cell; no chromatin present. The nucleus and the nucleolus have entirely broken down and disappeared.

Illustrating Article on Goiter by Dr. G. W. Crile, Cleveland, O.

anesthetized to the second stage, in bed as before, and is at once taken to the operating-room, where nitrous oxid is substituted for ether. The operative field is as completely cocainized as if no general anesthesia were being given. First the skin and fascia of the opposite side, are incised about one inch. Through this incision, by means of a full curved needle, the upper pole of the gland (Stamm) and all of the overlying tissue inclusive are firmly ligated. Then in the gentlest possible manner the opposite lobe is excised bloodlessly, absolutely avoiding traction on any uncocainized sensitive tissue—precisely as if the patient were awake. After the operation the utmost care is exercised to keep down to a minimum psychic and painful stimuli.

If simple ligation is to be done quite another technic is followed, namely:

After the patient is easy and comfortable under morphin and scopolamin, and not before, I tell her all that she will probably experience. Everything being in readiness—skin, fascia, and muscles—a transverse distance of an inch overlying the upper poles of each thyroid is carefully cocainized. An incision is then made through the skin and fascia, a full curved needle is swept from without inward in such a manner as to include the upper pole of the thyroid, as well as all other structures lying between the bottom of the incision and the larynx. This ligature is then tied and a superficial stitch or two closes the skin. A similar procedure repeated on the opposite side completes the double ligation. It is helpful to chat with the patient meanwhile. The operation is performed on the patient in bed.

The twelve operations performed on this principle are in a class by themselves as to the operative reaction. Even in a case in which the patient's entire body was edematous and the terminal stage of the disease had been reached, the reaction was slight. The technic as a whole is difficult to carry out perfectly. In the strict surgical sense every case by this method is operable at least to the extent of a ligation, though the lesion of the heart and brain may be so extensive as to preclude a final cure.

Granted we have mastered the operation, have we thereby mastered the disease itself? The disease, I believe, may be cured in one or more ways: (1) if the brain cells are sufficiently repaired by absolute rest; (2) if the nerve connection between the brain and the thyroid be interrupted in part by tying the upper thyroid poles, which include half or more of the nerve supply; or (3) if the secreting structure of the thyroid be diminished by partial excision or by cytolytic serum (Beebe's).

Of these three methods excision is the most effective. The immediate relief to the patient following excision is one of the most striking clinical phenomena in surgery.

I therefore conclude that in exophthalmic goiter a pathologic reciprocal interaction between the brain and the thyroid gland exists, and that this reciprocal interaction can be maintained through a nerve connection only. How else could a psychic or a traumatic impulse reach the thyroid and influence its secretion than through a nerve connection or possibly by a hormone action? Many glands of the body respond to adequate psychic and mechanical stimuli. A familiar example is the salivary gland, whose secretion may be excited by the thought of palatable food (psychic), or by the presence of a neutral foreign body—a piece of wood, a pebble, or dental instrument (mechanical). It is generally believed, as opposed to the preceding statement, that the benefit following ligation of the superior thyroid artery is due to the diminution of the blood-supply. In Graves' disease the thyroid, like the placenta in an abdominal pregnancy, builds up a great mass of blood-vessels from the neighboring tissue, especially from the trachea and larynx, so that the superior thyroid not only constitutes a minor part of the blood-supply, but the rich anastomosis revascularizes, probably within a few days, the anemic zone produced by ligation. Then, too, how slightly, as observed in the course of operation, is the hemorrhage diminished by ligation of the superior thyroid artery alone? Simple ligation of the superior thyroid, as it seems to me, is an inadequate explanation of the vast clinical transformation, sometimes lasting months, or even years, following ligation, especially when we take into account the fact that much of the nerve-supply to the thyroid gland enters along the walls of the blood-vessels, and that in ligating the vessels the nerve-supply must be included. May it not well be that the entire mechanism—the cause, the exacerbation and hence the cure—will prove to have a nervous setting and that the thyroid hypersecretion is no more the cause of the disease than is saliva the cause of the psychic phenomena attending the thought of food? Whatever may be the explanation, I draw no conclusion at present.

SUMMARY

The principal points presented in this paper may be summarized as follows:

In one fatal case of simple exophthalmic goiter the brain-cells were found to be widely and extensively affected. Pure fear caused physical lesions in the cells of the rabbit's brain. The principal cause of so-called hyperthyroidism incident to operations on cases of Graves' disease is the adequate psychic and traumatic stimuli, both of which are phylogenetically closely akin; the psychic stimuli may be excluded by special orienting and the traumatic stimuli by an absolute cocainization of the operative field. By a combination of both local and general anesthesia, ligation and excision may be safely done. The value of ligation probably lies mainly in its breaking part of the nerve connection with the brain. The value of excision is the diminution of the total quantity of the gland secreting structure and the breaking of the nerve supply as well.

Between the brain and the thyroid gland in Graves' disease a pathologic reciprocal interaction seems to exist. Patients in Graves' disease are specifically hypersensitive to trauma, to psychic stimuli and to thyroid secretion. When operated on and then immediately returned to the environment that originally produced the disease they frequently relapse. Patients operated on and then given a prolonged rest-cure, which alone can repair the damage to the brain-cells, are nearly all cured. It requires approximately the same length of time to recover from exophthalmic goiter as it does to recover from a nervous breakdown from other causes. A combination of surgery and an adequate rest-cure is, as I believe, the method of choice and will cure most patients.

My thesis is that the explosive exacerbation after operation is not due to the commonly accepted cause, such as escape of thyroid secretion into the circulation, but is due to injury to tissue and to fear, and that it may be prevented by excluding the psychic factor and by blocking the nerve-supply of the field with local anesthesia so that no impulse arising from injury of the operation can reach the brain. By this method even patients with advanced and otherwise hopeless cases of Graves' disease, abandoned by both the internist and the surgeon, may be operated on with safety and prepared for the maximum benefit from a rest-cure.

214 Osborn Building.

ABSTRACT OF DISCUSSION

Dr. A. J. Ochsner, Chicago: The work which Dr. Crile has done in connection with exophthalmic goiter, and the particular points he has mentioned this morning, are of sufficient importance to be borne in mind by all who deal with this condition. Especially is it important for us to remember that many of the conditions, which we formerly considered of most importance as causes of postoperative hyperthyroidism, are really of no special importance. In exophthalmic goiter we have a very severe destructive condition, which is due to the hyperthyroidism to which the patient has been exposed. Undoubtedly, most human beings are capable of neutralizing a certain amount of hyperthyroidism without having the tissues of the nervous and circulatory systems materially affected. In our normal bodies there is a condition of balance, so that the destructive effect of hyperthyroidism is not apparent. On the other hand, let one of us become exposed to an unusual strain of the nervous or physical system and immediately this balance may be destroyed and we may show the effects of this hyperthyroidism, particularly in the heart and nervous system. Tachycardia and the other well-known symptoms may appear. When we come to operate on these patients suffering from exophthalmic goiter, we deal with a condition of poisoning of these important structures, and by the addition of a very slight amount of further poisoning the balance is entirely overthrown. Whether in any given case this can be occasioned by the mental condition, or by a slight physical trauma, or by expressing into the tissues in the region of operation a certain amount of thyroid fluid, we do not know, but we do know that when the patient is overburdened with one or several of these conditions hyperthyroidism results. Any one of these conditions may produce an additional amount of hyperthyroidism, which makes the operation a dangerous one. It is only by eliminating, so far as possible, all the additional burdens placed on the patient that we avoid danger, and unless we do so we are bound to get the effect of excessive hyperthyroidism. I have discarded the operation under local anesthesia entirely except for the ligation operation. Möbius claims that the mental strain of local anesthesia is greater than the physical strain of general anesthesia, which seems reasonable, and in my work I have actually found that general anesthesia is harmless to the patient. The manner in which we accomplish this is to anesthetize the patient absolutely with ether given by the drop method; then we place her in the inverted Trendelenburg position, so as to produce an anemia of the brain, and perform the operation without giving any further anesthetic. The patient does not complain of any pain or discomfort afterward. In this way we protect the patient against two of the sources of physical and mental depression, and I believe that we have succeeded in that way in eliminating hyperthyroidism to the greatest possible extent.

There is one other point which Kocher brought out, namely, that of local absorption, and in two instances in which I did not provide for free drainage, there was hyperthyroidism. The thing I wish to impress on you particularly is that we must not try to eliminate this, or that, or the other cause, but that we must eliminate every possible cause that might do harm to anyone.

Dr. Archibald MacLaren, St. Paul: Dr. Crile is correct in his statement that the element of fear enters very markedly into the dangers of the operation for exophthalmic goiter. Whether other causes, such as hyperthyroidism, may or may not play a rôle, fear is a very decided element, and without doubt increases the mortality of the operation cases. I have employed Dr. Crile's suggestion of putting the patient to sleep without her knowledge, and since then I have not seen any hyperthyroidism. By not letting the patient know when the operation is to be performed, and by giving a volatile oil preliminary to the anesthetic as a "treatment," say the day before, and gradually coming to the administration of ether, the patient is anesthetized without her knowledge and, I am sure, does much better.

Dr. Martin B. Tinker, Ithaca, N. Y.: Dr. Crile manipulates the gland very carefully and skilfully, and this undoubtedly has been a factor, and an important one, in his results. I would like to bring up one or two points in this connection: Dr. Crile states that he has not seen hyperthyroidism resulting from handling of the gland. I have in my records several cases of hyperthyroidism from handling during examination; in one patient in particular the temperature went up to 103 F. after examination only, and I believe with no other factor than the handling to account for it. A second point brought out by Dr. Ochsner is the importance of drainage. I do not know any man who does much of this work who does not provide for proper drainage. If the dangerous symptoms after operation are from psychic causes only, why should we drain?

Another point which deserves extra emphasis is the preliminary careful examination of the patient. Success in the severe forms of exophthalmic goiter depends very largely on our ability to estimate what the patient can stand. I have been accustomed not only to do the preliminary ligation, but to divide the operation, if necessary, into several stages. In certain cases I have operated in as many as five stages, first ligating the superior thyroid, then exposing the gland, next removing the gland, then closing the wound, and in certain cases I have added another step, that of ligating the inferior thyroid vessels before removing the gland. Since attempting this stage operation I have done over one hundred consecutive thyroidectomies in bad cases of exophthalmic goiter without loss of life. I believe that this factor, the careful estimation of the condition of the patients, doing just what they can stand and no more, is extremely important.

Dr. Crile implies that general anesthesia is used by Dr. Mayo, but all who have seen him operate know that Mayo now uses local anesthesia in many of his ligations. I believe that local anesthesia is a very important factor in eliminating shock, and that with efficient local anesthesia it is unnecessary to use general anesthesia, at least in the majority of the cases. My experience since trying to estimate the severity of my cases more carefully and doing the operation in stages leads me to believe that these with local anesthesia are the most important factors in the results.

Dr. William R. Cubbins, Chicago: We ought to consider this thing from another standpoint, remembering its close association with the islands of Langerhans, the suprarenal capsule, the sympathetic system, and the hypophysis. The removal of the gland must be carefully considered, along with the mental effect produced on these very excitable patients. In addition to the Von Graefe sign, the tremor, rapid pulse and enlarged gland, I have observed that there has been a marked increase in the blood pressure, varying from 185 to 210 Hg. Immediately following an operation, the patients have uniformly stated that they were markedly improved, and complain of few, if any, of the original symptoms, while on examination we find the original symptomatology present with only a slight reduction in the blood pressure, say from 157 to 170. The pulse is still rapid, the eye prominent and the tremor marked. After eight or nine months there may be noticed a marked improvement of these symptoms, but I do not believe it is right to allow an inference to go out that in these patients operation is followed by immediate complete cure.

Dr. C. H. Mayo, Rochester, Minn.: Within the last few years I have written a number of papers on the treatment of exophthalmic goiter, and in nearly all, as I reviewed them later, I was reminded of a deformed child. I seem always to have attributed my success to some particular part of the technic which I do not now use at all. Once I used the Paquelin cautery to prevent absorption from the raw surface and the exudation of the serum. Next I used phenol and then Harrington's solution. Now I do not use anything on the gland, and in 800 cases my results have been just as good as they were when using the cautery and solutions named. In the early days the patients coming to the surgeon were in bad condition, often on the verge of death. Surgeons have come to recognize these cases and do not operate when the condition is hopeless. There are several types of goiter, and we should be able to recognize them.

In Rochester we operate on the gland itself by removing or ligating its blood-supply. We treat patients by cystolysis with a serum. By ligation we secure a change in the blood supply, and this change may come through other influences. There may be a tendency to recover in one-fourth of all cases. We ligate when we think that the patient cannot survive a radical operation for removal of all of the gland. This puts the fatal cases over into the ligation series. We have reduced our mortality greatly by exercising judgment in selecting the operative cases. If the patients are not in a suitable condition to be operated on, they are put under medical treatment until we feel that something can be done for them. We ligate, say, one artery to-day, another in a week or two weeks, and so on.

The choice of an anesthetic is not so important. I often use local anesthesia. I have had two deaths following the ligation of the thyroid artery, one under general and the other under local anesthesia. As Dr. Crile has stated, the psychic factor plays a great part in these cases. Patients with marked psychic disturbances are not suitable for any kind of an operation and they should be left in the medical class. We cannot always select the cases or make an exact diagnosis of conditions, but by carefully studying the patients and giving suitable treatment, we certainly can diminish the mortality very materially and also get much better results.

Dr. G. W. Crile, Cleveland: In Kocher's clinic there are certain patients with advanced exophthalmic goiter on whom he does not undertake to operate. He, like Mayo, found that if he operated in such cases the patient died, and the cause of surgery and the interests of the patient are not conserved.

I wish to suggest a method that will permit the surgeon to do a ligation on every patient who is still alive. The operation can be done in bed, in a minute or two, without pain and without reaction. The field can be cocainized without frightening the patient to death, as many patients with exophthalmic goiter have been. If fear is eliminated, and it can be done perfectly well, there will not be any trouble. When the brain is marooned, it does not appreciate that an operation is going on. Therefore, the patient must be kept psychically and physically in a negative phase. There is no reaction, and I believe, from what we have now discussed, that it is quite evident that we can do a ligation in any case. I do not say that all patients can be cured, because some of these cases are far advanced. I have operated on patients who have been on the verge of delirium. I have operated on them in bed without any reaction. It is not in the mild, recent cases, but in all cases, that the patients are benefited by ligations.

Knowing, as we do, that in exophthalmic goiter changes in the brain cells take place, how can we expect merely to operate on the glands and then submerge the patients again in an environment from which they received the disease and expect them to recover promptly? My idea is that the operation serves to break the pathologic chain that is enthralling the patient; that once broken, the patient may be cured by being compelled to take the rest cure. Operation is only one phase of the treatment. The rest cure and after-care are other phases, and it takes from two months to a year, or even more, before these patients can be said to be cured, and unless they are completely cured at the first trial they are more difficult to treat when a relapse has occurred. I have often seen cases which bear out this statement. Surgery should try so to perfect its technic that in every case, no matter how bad, the patient may be speedily operated on and benefited. Surgical treatment is only one step in a cure. A long rest cure must follow. This is as necessary in goiter as it is in a nervous breakdown from any other cause.

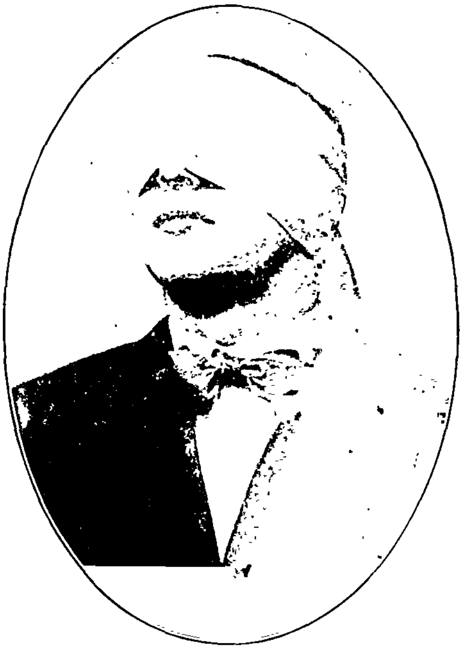
Fatigue in Neurasthenia.—Under normal conditions the sense of fatigue is not unpleasant, and if followed by timely rest may be a positive pleasure. If, however, effort is pushed to the point of complete exhaustion, symptoms are apt to arise which closely resemble those of neurasthenia. The individual becomes mentally depressed and indifferent to all other considerations but himself; effort of all kinds, physical or mental, is painful, he suffers from headaches, backaches, etc., and is irritable and sleepless. All these and similar symptoms, whether the result of physical or mental labor, depressing emotions, prostrating illness, etc., sooner or later yield to appropriate rest and régime.—D. Ferrier, in the *Practitioner.*

SODIUM CACODYLATE IN SYPHILIS

A SECOND NOTE

A. J. CAFFREY, M.D.
MILWAUKEE

I recently published[1] a report of a case in which a typical chancre was successfully treated with sodium cacodylate. Dr. L. L. Michel[2] questions the results. I therefore submit the accompanying portrait of the patient, taken Jan. 10, 1911. The dark part on the lip shows the location of a bleb-like elevation that was caused by the patient's drawing the lip under the upper teeth, to hide it when he was on the street, because he was ashamed of the chancre. The patient is well and healthy, has gained weight, and his kidneys are acting normally. He has no ocular signs of poisoning, and no return of the secondaries. He is apparently cured.



Patient treated with sodium cacodylate for chancre on lip.

I have been using the sodium cacodylate side by side with 606 and while I am glad to say that I have had good results with 606, I have had just as good with sodium cacodylate. Dr. Michel, in his letter[2] to The Journal, tells of chancres on the lip and elsewhere healing under the influence of the soluble salts of mercury in two weeks, or thereabouts. I do not doubt this, as I have had the same result myself with mercury, but mercury is just what we are trying to get away from. I find that patients tolerate sodium cacodylate well and its toxic effect does not show until after very strenuous treatment. Dawes and Jackson[3] found that it required 0.8 gm. injected to kill a rabbit; in the case reported I have given in all, over a period of one month, 46 grains.

600 Grand Avenue.

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[1] The Journal A. M. A., Dec. 24, 1910, p. 2211.

[2] The Journal A. M. A., Jan. 21, 1911, p. 211.

[3] Dawes, S. L., and Jackson, H. C.: The Physiologic Action, Elimination, and Therapeutic Application of Sodium Cacodylate, Used Hypodermatically, The Journal A. M. A., June 22, 1907, p. 2090.

A PLEA FOR GREATER CARE IN ARRANGING PATIENTS ON THE OPERATING-TABLE FOR THE PREVENTION OF THE COMMON POSTOPERATIVE WEAK BACK

THE PRESENTATION OF AN APPARATUS FOR HOLDING THE LITHOTOMY POSITION WITHOUT STRAIN

JOEL E. GOLDTHWAIT, M.D.
BOSTON

In a previous paper[1] I called attention to the importance of considering the positions in which patients are placed during the performance of operations so that the sacro-iliac joints and the lumbar spine cannot be strained.

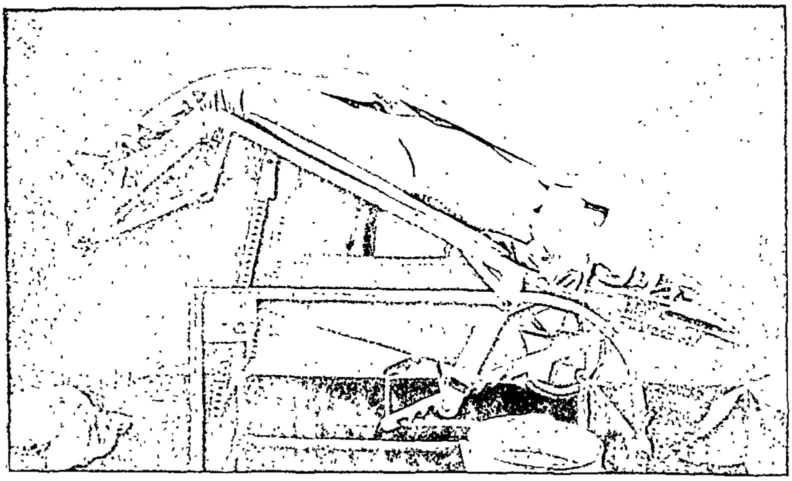

Fig. 1.—Faulty position without support for the back and with the thighs hyperextended. Strain of the lumbar spine and sacro-iliac joint must result.

The facts that such strains do often occur and that many patients are harmed because of these unnecessary strains in connection with operation cannot be questioned; but only those who have to do with the treatment of weak or painful backs or with chronic joint diseases in adults can appreciate how frequently such conditions occur.

In the article referred to the position in which the patient should be placed, if the operation requires the horizontal position on the back, or the Trendelenburg position, was shown, as well as the undesirable position in which strain of the lumbar spine and sacro-iliac joint are possible, and because of the apparent importance of the subject, this section of the previous paper is quoted:

"We must remember that, when lying on the back, if the bed or supporting structure is hard so that the buttocks cannot settle into it, the lumbar spine must sag downward, and if the buttocks are large or the waist small, the amount of this sag may be enough to cause painful strain on the interspinous ligaments or on the sacro-iliac joints. . . . .

"This means that in planning operations we have responsibilities other than those which have to do with the purely local lesion. At such times, if the whole body is considered, the strained sacro-iliac joints with the distressing backaches and with the not infrequent disability which results from this will not occur. The patient will not be put on the table as shown in Figure 1, since in this position the thighs are hyperextended, the axis of the pelvis must be drawn forward, thereby raising the upper part of the sacrum and the lumbar spine. There being no support for the spine, however, it must sag back again, and with this the sacrum must be dragged downward, the two influences necessarily resulting in definite strain of the sacro-iliac joints, with subsequent backache. Not only this, but as the result of the hyperextension of the thighs and the tilting downward of the anterior part of the pelvis the abdominal muscles must be stretched, making unnecessarily difficult the separation of these muscles during abdominal operations. With the slight support under the back to prevent the sag of the spine and also under the knees so that hyperextension is prevented (Fig. 2), all of these undesirable features can be overcome without in any way interfering with the important elements of the position."

In regard to the protection of the patient when the operation calls for the lithotomy position, while the desirable position as well as the common undesirable position was shown, it was quickly realized that the maintenance of the desirable position was practically impossible with any of the resources at our command. Because of this the apparatus which is here described was designed, and it is the presentation of this that has seemed to me a sufficient justification for the communication.

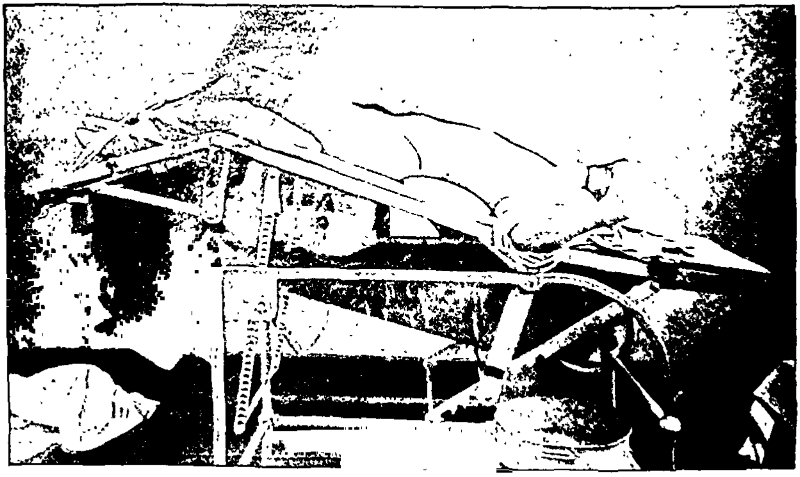

Fig. 2.—Correct position, with lumbar spine supported and with pillow under knees to prevent the hyperextension. No strain of the lumbar spine or sacro-iliac joint can result under these conditions.

In studying the subject I have been impressed by the fact that not only do the patients often receive harmful strains of the back by being placed in these positions, but the assistants at such operations are often severely strained and unnecessarily exhausted because of the positions which they are forced to assume—positions which no human being can maintain for long without harm. The frequent giving out of the assistants at such operations while the operator himself remains fresh, in my studies has made me try to devise something that would not only protect the patient, but would protect the assistant also.

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[1] The Relation of Posture to Human Efficiency and the Influence of Poise on the Support and Function of the Viscera, Boston Med. and Surg. Jour., Dec. 9, 1909.

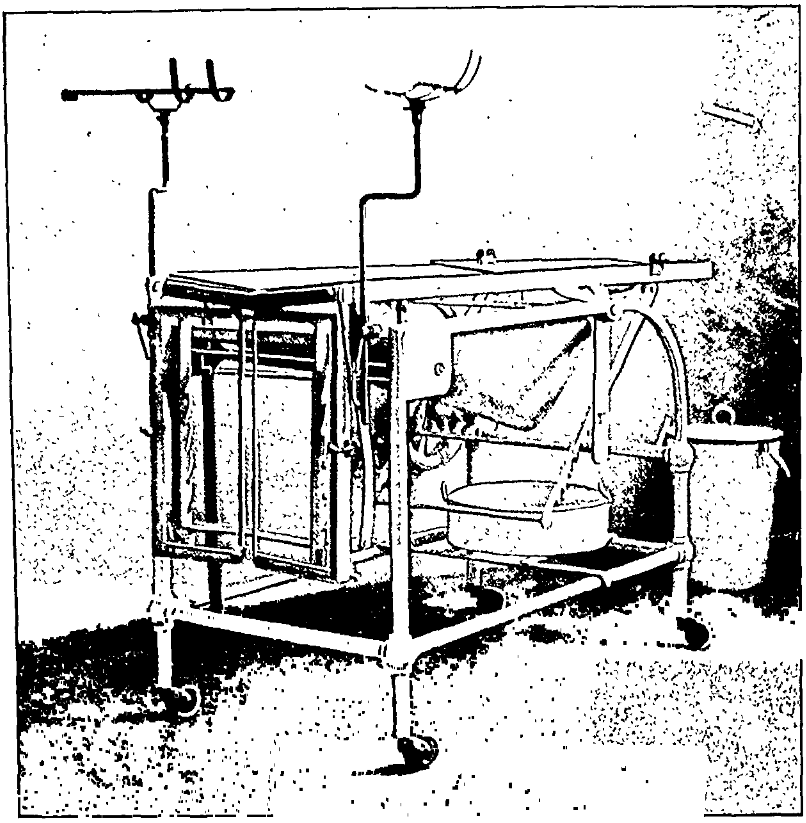

Fig. 3.—Table with adjustable leg supports.

To quote again from the article above mentioned: "With the lithotomy position, also, there is a right and a wrong way of obtaining this. If the thigh is sharply flexed and at the same time abducted, and if, as is so commonly seen with this, the assistant rests on the leg as he reaches over to assist the operator, the ilium must be strained downward and backward, with resulting sacro-iliac strain and weakness." If, however, the thigh is flexed less sharply and if a bandage or strap is attached about the knees to prevent the marked separation of the knees, "the position can be maintained indefinitely without harm and without sacrificing the essential features of the position."

The same opinion is held to-day in the present comment as at the time of the presentation of the earlier paper, but I now realize fully that, while the position last mentioned is the desirable one, it cannot be maintained without definite mechanical aid. The strap about the knees to prevent the extreme abduction of the thighs in the first place, interferes with the usefulness of the assistant, and when the coverings are in place unnecessarily obscures the field. In the next place, to hold the leg in this position for the length of time of the usual operation is absolutely impossible, since the weight of a leg is no small thing and since no muscle even under favorable conditions (and this would be decidedly unfavorable) can maintain its contraction for more than a very few minutes without becoming wearied and relaxing. This must result if the assistant attempt to hold the leg, and it not only allows ultimate drag of the leg, but represents a source of unnecessary strain for the assistant.

To overcome this the leg-rest that is shown in Figure 3 has been constructed by the Kny-Scheerer Company and can be secured through them for attachment to any table. It consists of the flat rest on which the lower leg is placed, and the adjustment of the position of this is made by raising or lowering the upright, for the height, or by rotating the upright so that the double angle moves the rest farther away or nearer to the patient. When the leg is once placed in the desired position (Fig. 4), the position cannot be changed except as the operator may wish, and not only this, but the assistant has a definite rest on which he can lean without harm to the patient. In this way the extreme weariness of the assistant, which must come when the body is used in the flexed and partially rotated position with only the muscle supports to protect it, is entirely eliminated.

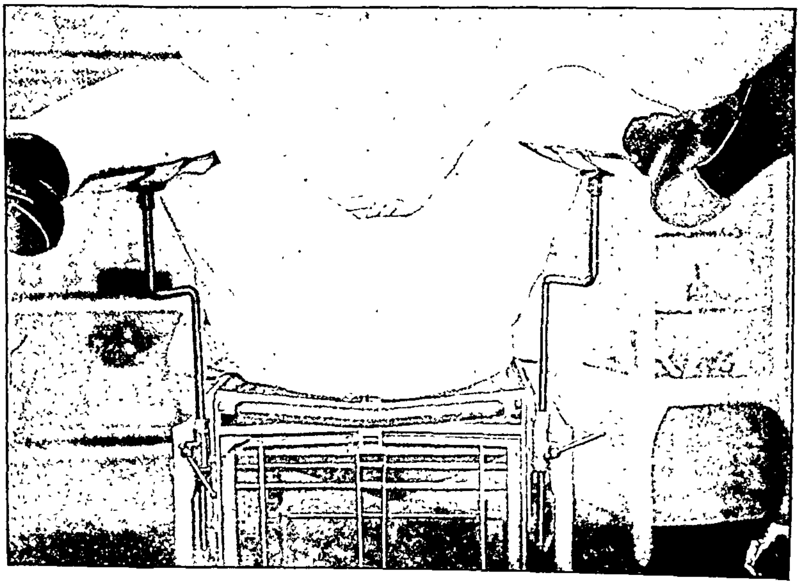

Fig. 4.—Lithotomy position, with legs supported on the rests shown in Fig. 3. Once arranged, the position cannot change except as the surgeon may wish.

The effect on the position of the thigh which results from trying to support the leg on the upright commonly attached to operating-tables, in which the leg hangs by a noose around the ankle, is shown in the left leg of

Figure 5. This must result in the sag of the legs apart, with at the same time the outward rotation of the thighs, both positions meaning strain to the pelvic joints, which must be greatly increased if the weight of the assistant is added. The contrast to the position of the right leg in this illustration is at once apparent.

In the experiments which were made in planning the leg rest I myself took the positions in which the patients are commonly placed, and if anyone has any question as to where the strain is received I would suggest that that person make the same experiment on himself.

In conclusion I wish simply to call attention to the fact that the position in which the patients are placed at the time of operation has much to do with the presence or absence of postoperative backaches and the subsequent weakening of the sacro-iliac joints. The positions in which strain will not take place are so easily obtained that there is no possible excuse for such harmful conditions occurring. An apparatus is shown in which the lithotomy position can be maintained indefinitely without strain either to the patient or the assistant.

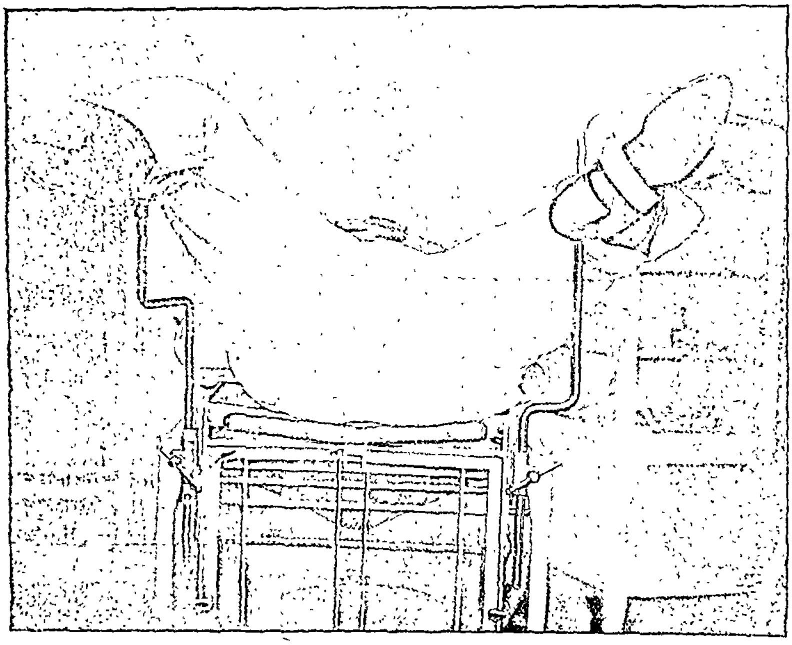

Fig. 5.—The right leg correctly supported, the left supported by the ankle noose which must allow sag and joint strain.

372 Marlborough Street.

Plague Eradication and Rats in India.—In one house in Belgaum 197 rats were caught in the course of a year; this was a grocer's shop in the city market. It was a small house of three rooms, occupied by six people, Mahomedans, and it is a curious fact that the house possessed two cats. There were seventeen houses in which more than fifty and less than a hundred rats were caught; nine of these were ordinary dwelling houses, two were grocers' shops, one a grain godown, two liquor shops, one butcher shop, one stable, and one weaver's house. Two hundred and thirty-seven houses yielded a catch of more than twenty but less than fifty rats. Twenty-four of these were grocers' shops, sweetmeat sellers or grain stores, nineteen were weavers, eight were tailors' shops. No other trade seems to possess any influence especially favorable to rat infestation. The Indian cat is not a particularly good rat catcher.—Reports on plague investigations in India.—*Journal of Hygiene.*

INTRACRANIAL SURGICAL LESIONS IN CHILDREN *

CASSIUS C. ROGERS, A.M., M.D.
Professor and Head of the Department of Surgery in the Chicago College of Medicine and Surgery, Medical Department of Valparaiso University; Surgeon to Frances E. Willard Hospital.
CHICAGO

I wish to present a series of cases consisting of different cranial and intracranial lesions, giving brief history, the operation performed and the indications for surgical interference, as well as the results obtained. Although in this series the results have not been so flattering as one would wish, I hold the long existence of the lesion responsible for producing destruction irreparable by surgery.

The best results in surgery are achieved by prompt action, and the surgery of the brain is no exception. When once areas of the brain are destroyed we can hope but little for repair. Many of my patients are brought to me when all hope for improvement has been abandoned months and even years after.

Most of the patients have been given potassium iodid for long periods, and perhaps several periods, no results having been obtained. Physicians have been changed and another course of potassium iodid given, when three and at most six weeks should have given positive proof that the treatment was of no avail.

If a child had a broken arm, what physician would wait twelve weeks to reduce it or wait until an abscess had formed, as was done in the skull fracture in Case 12? This also should remind us of the disasters that may happen weeks after an apparently slight head injury.

Early surgical interference in fracture of the skull, with intracranial hemorrhage, will be rewarded by almost certain recovery (Case 2), while delay for months or years hoping against hope that the focal symptoms if present will disappear, can lead only to discouragement and disappointment after operation (Cases 3 and 4). Much improvement may, however, be obtained in children after several years' delay (Case 5). Constant localized headaches should demand our most serious attention and our greatest efforts to determine the cause, as they may mean localized diseased areas within the skull (Case 6). Severe headaches following chronic otitis media associated with dizziness, rapid rise and fall of temperature, nausea and vomiting, frequently demand prompt surgical interference (Cases 7 and 8) to prevent extension into the cranial cavity.

I have studied carefully a number of children with impaired mental development, endeavoring to learn what was the cause of the mental defect and what benefit could be derived from medical and surgical treatment in these cases. Many children, soon after birth, suffer from malnutrition, probably from some unknown hereditary cause. Many of these cases improve under medical treatment while others seem to be benefited but little, or not at all. It is the latter class that I wish to report.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

These children frequently have convulsions from twenty-four hours to a week after birth, associated with slight rise in temperature and apparent unconsciousness. After the attack they fall asleep for several hours, the attack being repeated at indefinite periods. These attacks may be associated with involuntary movement of the extremities or face. Home treatment is resorted to. The parents discover later, however, that the children are not so bright as other members of the family, or children of the same age in other families, and it is then that the family physician is told of the symptoms the child presents. Frequently there is a tuberculous tendency in the family, but more frequently there is a syphilitic taint. Many of these children improve under antisyphilitic treatment, but if the improvement is temporary it is not conclusive evidence that the underlying cause is not syphilitic, for many of these children will not tolerate antisyphilitic treatment, nor will they be benefited if it can be tolerated. I have found in these cases, capillary arteriosclerosis as early as the sixteenth month, the findings and symptoms of these children indicating intracranial pressure. Not until the pressure has been relieved will the administration of mercury or potassium iodid prove beneficial; but many of these patients seem to make marked improvement after decompression, followed by antisyphilitic treatment.

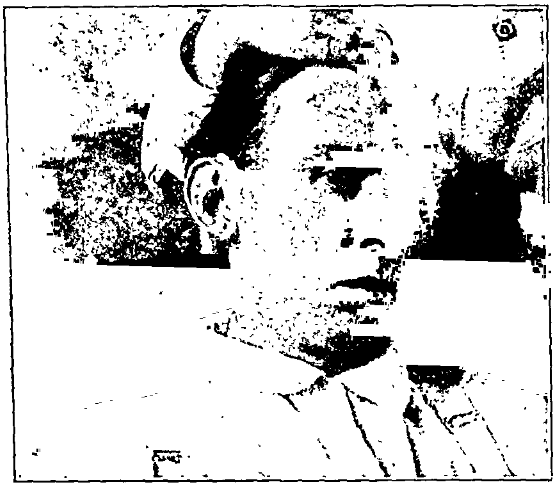

Fig. 1.—Patient 4, just before operation. Decompressed fracture, duration fifteen years.

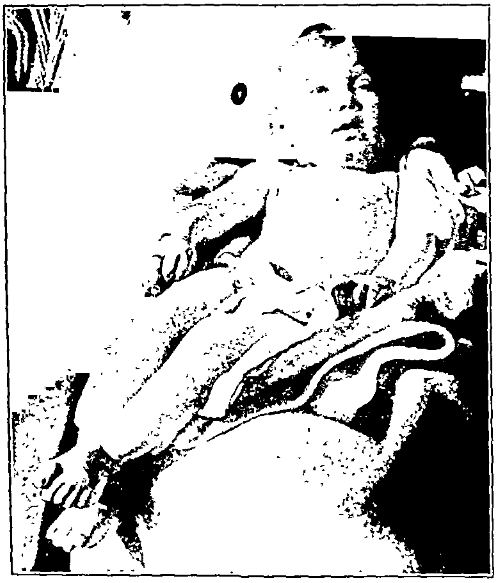

Fig. 2.—Patient 10, before operation.

In cases of chronic tuberculous meningitis the children have not improved after operative interference, while in chronic syphilitic meningitis every patient has apparently improved under antisyphilitic treatment after decompression.

It is my rule to make a Wassermann test in all cases, and if it is found positive or questionable to repeat the test, and also make a test on both father and the mother. I have not failed in a single instance, when I secured the positive test in the baby, to find either the father or mother giving a like test.

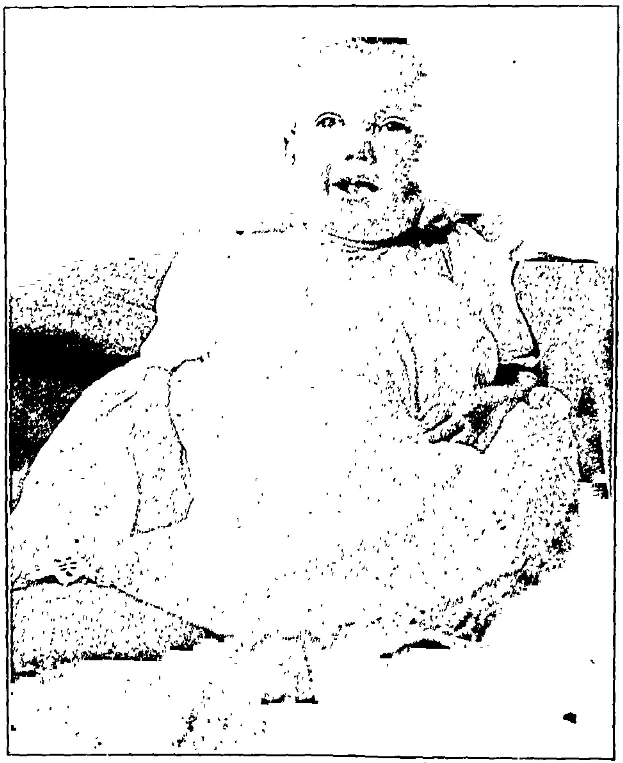

Fig. 3.—Patient 10, two months after right and left temporal decompression, showing bulging in temporal region.

Cases 9, 10, 11, 12 and 13 are selected from a series representing the above class of cases. In all cases of suspected brain tumors, if the tumor can be located, operation should be done with the hope of removing the tumor or relieving intracranial pressure, trusting that the tumor can later be removed. The decompression must be done before the patient has advanced ocular or mental disturbance (Case 14).

Children presenting, soon after birth, paralysis of a hand or leg should be closely watched and if the paralysis progresses and there are signs of intracranial pressure or rapid extension producing progressive paralysis, much, I think, may be done in the way of benefiting and saving the lives of these babies, if a large opening is made in the skull and intracranial pressure relieved (Case 15).

Following is a brief history of the cases referred to above:

Case 1.—*History.*—R., a girl aged 6, American, entered hospital Oct. 28, 1906, at which time she had been sick six weeks with headache and some fever; diagnosis, typhoid fever. The patient improved slowly only to relapse again to her former condition. Family history negative; the patient had had usual diseases of childhood; measles at age of 4; father living and well, aged 50; mother living and well, aged 50; has four brothers and four sisters. On the afternoon of Oct. 28, 1906, the patient's headache became severe and she became stupid and then unconscious. At this time her condition was so grave that she was taken to Willard Hospital, arriving there about 3 a. m., where I first saw her. Six weeks before becoming ill she had slipped on the deck of a boat while returning from England, striking her head against a bolt-head, but little thought was given this and no medical aid sought. She complained of headache a few days; then was apparently as well as usual.

Examination.—At the hospital, pulse was 60, respiration 10, temperature 98.5. Blood-count showed hemoglobin 78, reds 3,400,000, leukocytes 26,000, polymorphonuclears 80. A diagnosis of intracranial pressure was made.

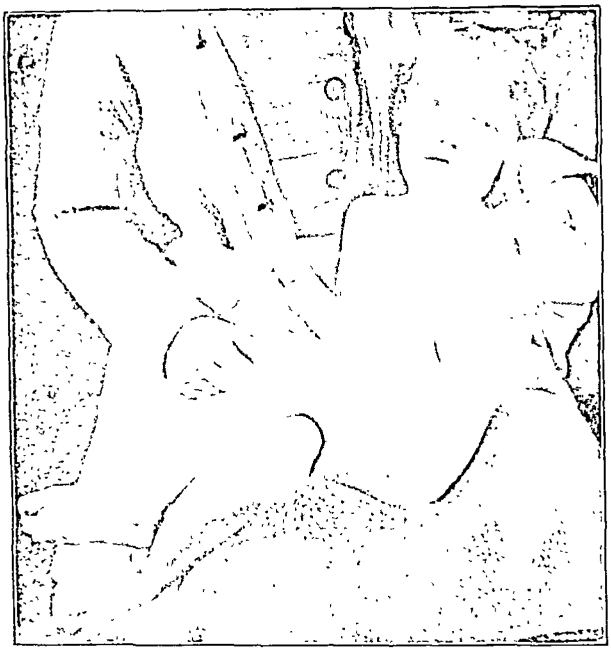

Fig. 4.—Patient 11, before operation, showing crossed and spastic condition of lower extremities.

Operation and Result.—Under chloroform anesthesia, a large subdural abscess was drained. The time consumed was forty minutes. The patient improved until the tenth day when she had a chill, rapid rise of temperature and died on the twelfth day following the operation. Temperature per rectum was 106.6, pulse 138, respiration 60. The post-mortem findings were diffuse meningitis, and double pneumonia.

Case 2.—*History.*—F., a boy aged 7, American, entered Willard Hospital July 6, 1908. Family history negative; had had measles and scarlet fever. July 6, 1908, patient fell from a stairway to a cement floor, a distance of about eight feet. He was unconscious when picked up but remained so only a few minutes. After regaining consciousness he appeared perfectly well for about forty-five minutes; then gradually relapsed into unconsciousness and remained so. This was accompanied by vomiting and muscular twitching, followed by violent involuntary muscular contractions of the entire body. The pupils were widely dilated; there was a large swelling in left parieto-occipital region. Dr. W. J. Butler first saw the patient and brought him to the hospital at 8 p. m., two hours after the injury. I first saw him at 5:30. Diagnosis was fracture of the skull with hemorrhage.

Operation and Result.—Patient was taken to the operating-room at once. A large bone flap was reflected; there was no extradural hemorrhage, but a large intradural hemorrhage filling the subdural space; the dura was opened and a large flap turned up. Bleeding points were ligated with fine catgut. The wound was closed without drainage. Time of operation and preparation was forty minutes; anesthetic, chloroform. Patient awoke from the anesthetic conscious, made an uninterrupted recovery and left the hospital on the tenth day cured.

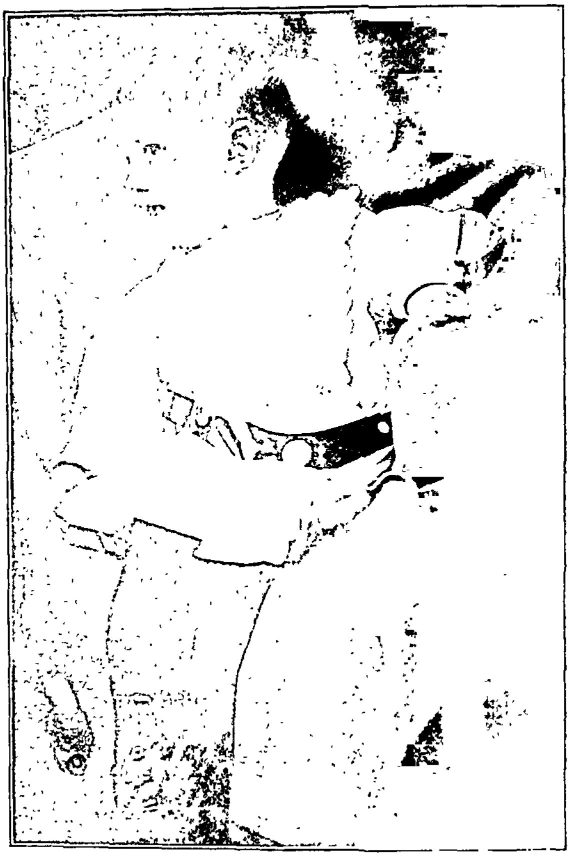

Fig. 5.—Patient 11, two months after operation. Able to sit up and hold head erect. The head is not leaning against the back of the chair.

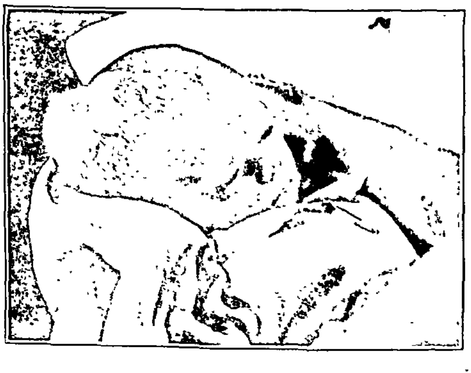

Fig. 6.—Patient 16. Baby 2 weeks old. Infected cephalematoma, drained and cured.

Case 3.—*History.*—Miss P., Polish girl aged 15, entered Willard Hospital Nov. 5, 1908. Family history negative; patient had had usual diseases of childhood. Two years before while watching a parade patient jumped off the back porch to a cement sidewalk, a distance of about 15 feet. She fell on her side, striking the right side of the head against the walk. She was unconscious for a short time. On regaining consciousness she had a paralysis of the left leg and arm which grad-improved for about six months, after which there was no ovement. At time of admission she could not walk and l not use the left arm or hand. Examination revealed a essed fracture in the right parietal region.

eration and Result.—A large bone flap was raised; dura found adherent to other coverings of brain and the brain ; the bone flap was replaced without drainage. The an- etic used was chloroform; time of operation, one hour. ent has improved enough to walk with a cane, but the arm is little benefited.

ASE 4.—*History.*—W., a man aged 21, American, family ory negative, was kicked by a horse in left frontal region he age of 7. The physician at this time removed a num- of pieces of bone, and some brain tissue was lost. Wound ed, leaving a large pulsating wound. At the age of 14 the ent developed epilepsy and had frequent and severe attacks. entering the hospital the attacks were as frequent as sev- a day.

peration and Result.—Large skin flap made and a large unt of depressed skull removed. Wound was closed with- drainage. The time of operation was about one hour. sthetic, chloroform. Patient developed pneumonia and l on the fifth day following the operation.

ASE 5.—*History.*—C., a boy aged 4, entered Willard Hos- l March 15, 1909. Mother says he was a large baby, labor ; and difficult. She was finally delivered with instruments. y seemed well and the physician noticed nothing wrong, the child cried a great deal and did not move his arms and as did her other two babies when they were young. The her said that the child never made any attempt to use his hand. The physician informed her that in time the would be used. At 6 months the mother discovered that left arm and leg were paralyzed. The baby always lay on back, never attempting to sit up. He cried nearly all the e he was awake. At the age of one year he still made no empt to sit up. At this time a physician was consulted l the mother was informed that the baby was paralyzed on left side and the paralysis would be permanent. At the of 16 months the mother laid him face downward and he rned to pull himself along with his right hand, pushing h his right leg and foot. He first sat up when he was 2½ rs old and would hop about, using his right leg and arm. is was his mode of travel when I saw him in the hospital. could stand on his right foot if supported, or could get ld of some object, as a chair, table, etc. He had never ked, nor could he be taught. His temper was violent and at times would beat his head against the floor.

Examination.—The left arm showed nothing abnormal except ophy. The left leg was atrophied and the patient had a ked talipes varus.

y physicians had been consulted and none gave the any hope, but the mother consented to the request of inger (to whom I am indebted for the case) to allow rate and see if there was pressure that could be

n and Result.—March 16, in my clinic at the Wil- tal I turned back a large bone flap on the right side extradurally several large deposits of lime salts. peeled off like fish scales. The dura was then nothing pathologic found. The bone flap was re- d in about one week the child began to n a little. He left the hospital at the end of the able to stand with the aid of a stick used as a sup- ter from his mother recently says that he is talking can walk well without any assistance. His great w is the club-foot. This case was undoubtedly one l hemorrhage following injury by the forceps. The rtially absorbed; the rest calcified. Had this n operated on when a few weeks old there is no the result would have been more satisfactory than n date—four years after the injury.

tory.—An American girl aged 18, family his-

had by the baby carriage falling down a series of steps turning over, throwing the child on the stone walk on its head. That child's skull was trephined and the bleeding vessel was ligated. The paralysis was relieved and the

Treatment and Result.—The head of the femur was resected, but the sinus did not close. One year later I amputated the left lower extremity at the hip, as the *x*-ray showed necrosis of the femur and there were multiple discharging sinuses in the thigh. The wound healed nicely but soon the left elbow became swollen and painful and a sinus developed, communicating with the lower end of the humerus. This was curetted and the external condyle chiseled away. This healed and in a few weeks the patient developed a temperature of 106, respiration 60, with rigidity of the neck, and head drawn back. A diagnosis of tuberculous meningitis was made. She improved, temperature reaching normal in six weeks, but with a rise in the evening around 102. All this time there was severe occipital headache. As the pain was constant and localized I trephined and removed a necrosed plate of skull 2 inches by 2½ inches from the parieto-occipital region. Before this was healed, a mastoiditis developed on the right side and later a mastoiditis on the left side. Both were operated on and healed. The patient has had in all thirteen operations and has had tuberculin injections for eighteen months. In June, 1910, she was in better health than at any time since I first began to treat her, five years ago.

This patient has had right and left mastoiditis, with an extradural abscess in the parieto-occipital region.

CASE 7.—*History.*—P., a French boy aged 9, family history negative, entered the Willard Hospital, Dec. 13, 1909. Six weeks previously he complained of pain in the left ear, which was treated, and after a paracentesis of the tympanum he improved rapidly and the physician was discharged. A few days later the boy complained of frontal headache. This was accompanied by vomiting and dizziness. The following day the headache was more severe and the dizziness and vomiting worse, but the patient complained less, appearing stupid. About 4 a. m. December 13, the parents could not arouse the patient to give him his medicine. He was brought at once to the Willard Hospital, when I first saw him, with his attending physician, Dr. Stoll. A diagnosis of intracranial abscess was made.

Operation and Result.—The mastoid antrum was opened and the skull trephined just above the mastoid. About a dram of pus escaped; a gauze drain was inserted and the usual dressings applied. The patient soon regained consciousness and made an uninterrupted recovery, leaving the hospital in two weeks.

CASE 8.—*History.*—M., boy aged 9, American, family history negative, two months previous to entering the Robert Burns Hospital, Feb. 20, 1910, had acute otitis media. His physician, Dr. Brode, went South for a rest and the patient received no medical care until the evening of February 20, when Dr. Stewart was called and found the patient suffering excruciating pain, terrific occipital headache and at times apparent delirium.

Operation and Result.—At the hospital the mastoid antrum was opened and found full of pus. The lateral sinus was exposed and a few drops of pus could be seen oozing from the skull along the sinus. A probe was passed along the sinus and pressure made against the sinus when a large quantity of pus was liberated. A plate of the skull was now removed just above the sinus and a large extradural abscess drained. Patient made a good recovery and left the hospital in ten days.

Cases 7 and 8 will, I am sure commend to all of us the advisability of removing large plates of skull in draining abscesses, either intradural or extradural.

CASE 9.—*History.*—Infant A, aged 3, American, family history questionable, had a normal rapid delivery; a few hours after birth the nurse noticed that the baby acted strangely and thought that it was having a spasm. The physician was informed and the next day the baby developed a high temperature and became unconscious, remaining so for five days. It then improved but had some paralysis of the left upper and lower extremities. This improved but the baby frequently had apparent convulsions. Soon the lower limbs became crossed, the left anterior to the right and the legs and arms were very rigid. The baby never sat up, never talked, would not chew

or three days, liquids. At the age of 3 when I first decided just what must be done. If you are in a hu
them alone.

mann negative. Blood-count showed no change in number of leukocytes.

Operation and Result.—April 9, 1910, a large occipital bone flap was reflected and the cerebellum exposed, but no tumor could be located. A plate of bone two inches square was removed and the headache entirely disappeared; also the nausea; but both have returned and there has been no permanent relief from the operation; a second operation has been refused.

CASE 15.—Infant G., aged 36 hours, Jewish, born after thirty-six hours' labor (instrumental delivery), was resuscitated with difficulty; scalp lacerated in right parietal region; left arm paralyzed; child in a stupor; later left leg became paralyzed. I advised operation which was refused. Baby died thirty-six hours after birth.

Autopsy showed depressed skull fracture with edema of the brain and membranes in the right motor area.

What might have been accomplished by operation in this and similar cases experience only can enlighten us.

CASE 16.—A baby 2 weeks old developed soon after birth a large fluctuating tumor on left occipital parietal region diagnosed as cephalematoma. On the tenth day the baby developed a temperature of 104 F., which continued until the contents of the tumor (an infected hematoma) were evacuated, after which the temperature dropped to normal and remained normal.

72 Madison Street.

SURGICAL LESIONS IN CHILDREN

Wassermann Test.	Paralysis.	Operation.	Findings.	Anesthetic.	Result.	Died After Operation.	Cause of Death.
Not made..	No..	Yes.	Brain abscess.	Chloroform..	Died.	12 days.	Meningitis.
Negative...	No.	Yes.	Fractured skull, subdural hemorrhage.	Chloroform...	Cured		
Negative..	Left arm and leg.	Yes.	Depressed fracture of skull.	Chloroform...	Improved..		
Negative...	No..	Yes.	Depressed fracture of skull.	Chloroform...	Died.	4 days..	Pneumonia.
Negative...	Left arm and leg.	Yes.	Calcified blood clot.	Chloroform...	Cured		
Negative ..	No..	Yes.	T. B. necroses of skull.	Chloroform...	Cured		
Not made..	No..	Yes.	Extradural abscess..	Chloroform...	Cured		
None.	No..	Yes.	Extradural abscess.	Chloroform...	Cured		
+	Limb spastic...		Capillary arterio-sclerosis..	Chloroform...	Died	6 hrs..	Shock.
+	Limb spastic...			Chloroform...	Improved..		
+	Limb spastic..			Chloroform .	Improved..		
+	Limb spastic...			Chloroform...	?		
Negative...	Limb spastic...	Yes.		Chloroform...	Died.	1 day..	Shock.
Negative...	No	Occipital decompression.	Tumor of cerebellum	Chloroform .	Died.	3½ mo.	Cerebellar tumor.
Not made..	Yes.	No..			Died.		Edema of brain.
Not made..	No..	Yes.	Cephalematoma.	None.	Cured		

ABSTRACT OF DISCUSSION

DR. E. H. ABBOTT, Elgin, Ill.: Of four patients referred to Dr. Rogers by myself and operated on this year, one died of surgical shock; two have shown more improvement than he has given them credit for; one showed no improvement, but the younger child on whom he did a double decompression had very little vision before the operation and sight has improved to such an extent in this short time that it can recognize food across the room. The older child, four years old, this child's brother, has an asymmetrically developed skull due to a unilateral hydrocephalus. Dr. Rogers aspirated the lateral ventricle in this case, as well as doing a decompression operation. The time has been insufficient since that operation for us to judge the amount of improvement, but two of the four operated on show decided improvement.

DR. C. G. KERLEY, New York: One feature of these cases of operation on the brain in children that I have observed is the indefiniteness in determining the ultimate results. I had that illustrated in one case, in which a baby was injured by the baby carriage falling down a series of steps and turning over, throwing the child on the stone walk on its head. That child's skull was trephined and the bleeding vessel was ligated. The paralysis was relieved and the child made a temporary recovery. Then there developed paralysis of one side of the body, but the child developed beautifully mentally up to ten years of age. The result of the operation was remarkable considering the work that had been undertaken. The boy had a fairly good arm and a fairly good leg on the paralyzed side, and was in excellent mental condition until, at 10 years of age, he developed epilepsy. I have advised a second operation. This case has impressed on me the indefiniteness of results in these cases, for the epilepsy may develop years after an apparently successful operation. Our results in removing so-called pressure in cases of spastic paralysis several years ago were universal failures.

DR. CASSIUS C. ROGERS, Chicago: I would like to ask the last speaker if in the decompression operation the dura mater was opened. In children the dura mater has the power of forming skull and unless that is opened the decompression is temporary. In the cases I have reported the results have been encouraging. The patients are as well off since the operation as before, and in most of the cases there is improvement. In every case of intracranial hemorrhage, if operation is done in time, there should be a good result. We would not delay, if the hemorrhage were in the abdominal cavity, to open and tie the vessels, so why should we wait when the condition is in the cranial cavity? Epilepsy may develop twenty or forty years after an injury to the head. I have been operating on such patients for about ten years and I have had no epilepsy follow the operative procedure if the patient did not have epilepsy before the operation, and I have operated in cases in which the patient had had repeated attacks of epilepsy before the operation and have been free from these attacks for seven years. The case sent me by Dr. Abbott, in which I introduced a trocar and drained the lateral ventricle, I forgot to mention. We do not know what the end-results will be in any of these cases. Undoubtedly there are many children in insane asylums an[illegible] homes for feeble-minded children, whom an operatio[illegible] ound time would have benefited; it would have kept them [illegible] these institutions. There are many individuals [illegible] ould institutions who are there because they have [illegible] t ensued, injuries followed by abscess, etc. A year or [illegible] l F. The operated on a man who had served two periods in [illegible] some diffi- and I found an abscess the size of a hen's egg. [illegible] paralysis of dural abscesses are not uncommon. *To diagn*[illegible] xtremities were *children the only thing to do is to watch* [illegible] e obtained only *sit by the bedside and watch them for h*[illegible] as traction of *spend nearly all of your time with them, pe*[illegible] m. on *or three days, until you have made your diag*[illegible] *decided just what must be done. If you are in a*[illegible] *them alone.*

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Negative ..	No..	Yes.	T. B. necroses of skull	Chloroform..	Cured		
Not made..	No..	Yes.	[illegible]	Chloroform..	Cured		
None	No..	Yes.	[illegible]	Chloroform..	Cured		
+	Limb spastic...	Temporal decompression.	[illegible] is..	Chloroform..	Died	6 hrs.	Shock.
+	Limb spastic...	Temporal decompression.	Capillary arterio-sclerosis	Chloroform..	Improved..		
+	Limb spastic..	Temporal decompression.	Capillary arterio-sclerosis	Chloroform ..	Improved..		
+	Limb spastic...	Temporal decompression.	Capillary arterio-sclerosis	Chloroform..	?		
Negative...	Limb spastic...	Yes.	Chronic T. B. meningitis	Chloroform..	Died.	1 day..	Shock.
Negative...	No	Occipital decompression.	Tumor of cerebellum	Chloroform .	Died.	3½ mo.	Cerebellar tumor.
Not made..	Yes.	No..			Died		Edema of brain.
Not made..	No..	Yes.	Cephalematoma.	None..	Cured		

ABSTRACT OF DISCUSSION

DR. E. H. ABBOTT, Elgin, Ill.: Of four patients referred to Dr. Rogers by myself and operated on this year, one died of surgical shock; two have shown more improvement than he has given them credit for; one showed no improvement, but the younger child on whom he did a double decompression had very little vision before the operation and sight has improved to such an extent in this short time that it can recognize food across the room. The older child, four years old, this child's brother, has an asymmetrically developed skull due to a unilateral hydrocephalus. Dr. Rogers aspirated the lateral ventricle in this case, as well as doing a decompression operation. The time has been insufficient since that operation for us to judge the amount of improvement, but two of the four operated on show decided improvement.

DR. C. G. KERLEY, New York: One feature of these cases of operation on the brain in children that I have observed is the indefiniteness in determining the ultimate results. I had that illustrated in one case, in which a baby was injured by the baby carriage falling down a series of steps and turning over, throwing the child on the stone walk on its head. That child's skull was trephined and the bleeding vessel was ligated. The paralysis was relieved and the child made a temporary recovery. Then there developed paralysis of one side of the body, but the child developed beautifully mentally up to ten years of age. The result of the operation was remarkable considering the work that had been undertaken. The boy had a fairly good arm and a fairly good leg on the paralyzed side, and was in excellent mental condition until, at 10 years of age, he developed epilepsy. I have advised a second operation. This case has impressed on me the indefiniteness of results in these cases, for the epilepsy may develop years after an apparently successful operation. Our results in removing so-called pressure in cases of spastic paralysis several years ago were universal failures.

DR. CASSIUS C. ROGERS, Chicago: I would like to ask the last speaker if in the decompression operation the dura mater was opened. In children the dura mater has the power of forming skull and unless that is opened the decompression is temporary. In the cases I have reported the results have been encouraging. The patients are as well off since the operation as before, and in most of the cases there is improvement. In every case of intracranial hemorrhage, if operation is done in time, there should be a good result. We would not delay, if the hemorrhage were in the abdominal cavity, to open and tie the vessels, so why should we wait when the condition is in the cranial cavity? Epilepsy may develop twenty or forty years after an injury to the head. I have been operating on such patients for about ten years and I have had no epilepsy follow the operative procedure if the patient did not have epilepsy before the operation, and I have operated in cases in which the patient had had repeated attacks of epilepsy before the operation and have been free from these attacks for seven years. The case sent me by Dr. Abbott, in which I introduced a trocar and drained the lateral ventricle, I forgot to mention. We do not know what the end-results will be in any of these cases. Undoubtedly there are many children in insane asylums and homes for feeble-minded children, whom an operatio[illegible] time would have benefited; it would have kept them [illegible] these institutions. There are many individuals [illegible] institutions who are there because they have [illegible] injuries followed by abscess, etc. A year or [illegible] operated on a man who had served two periods i[illegible] and I found an abscess the size of a hen's egg. [illegible] dural abscesses are not uncommon. To diag[illegible] children the only thing to do is to watch; [illegible] sit by the bedside and watch them for [illegible] spend nearly all of your time with them, perha[illegible] or three days, until you have made your diagnosis [illegible] decided just what must be done. If you are in a hurry, let them alone.

EXPERIENCE WITH SALVARSAN

EHRLICH-HATA'S 606 IN THE NEW YORK SKIN AND CANCER HOSPITAL

HOWARD FOX, M.D., and WILLIAM B. TRIMBLE, M.D.
NEW YORK

Through the kindness of Dr. Flexner of the Rockefeller Institute we received in October twenty tubes of Ehrlich's 606 for experimental use in the Skin and Cancer Hospital. The twenty tubes have been used for the treatment of eighteen patients, a second injection having been given in two of the cases in which relapses occurred. All of the patients remained in bed at least three days after treatment and then continued under observation at the hospital or returned to the dispensary at weekly intervals. All except two of the patients have remained under observation up to the present time.

With the exception of a patient with nodular leprosy to whom the new remedy was experimentally given, the patients selected for treatment were those who presented active syphilitic manifestations and (except in Case 8) a positive Wassermann reaction. The choice of patients was limited to those in whom ophthalmoscopic examination of the fundus and examination of the heart and urine showed no deviation from the normal condition.

The injections[1] of salvarsan were given either in suspension or in solution in doses varying from 40 to 60 centigrams. In the first nine cases the drug was given in a neutral suspension in the subcutaneous tissue of the interscapular region. In one case (10) the injection was made in the quadratus lumborum muscle. In the last ten cases, soluble injections were given in the gluteal muscles, according to the method of Lesser.

Examinations for *Spirochæta pallida* were made with the dark-field illuminator in five of the cases and showed a rapid disappearance of the organisms after injection. In no case could any spirochetes be found at the end of seventy-two hours after treatment, as seen in Table 1.

The Wassermann reaction was performed in every case before the injection was given and was afterward repeated at weekly or somewhat less frequent intervals. It was found to be positive in all except one case (9) in which mercury had been previously administered for several months. The original Wassermann method was performed by us, using two antigens for every case, one of the antigens being an alcoholic extract of syphilitic liver that had been found reliable in testing several hundred cases. Active serum from every case was also sent to Dr. Noguchi of the Rockefeller Institute, who employed his own antihuman system in determining the reaction. The final results obtained by the two methods were approximately the same with the exception of Case 3, in which the Noguchi method showed a negative result on the fiftieth day, while the Wassermann method continued to show a positive reaction at the time of writing. In five of the cases (1, 6, 7, 11, 12) the reaction has become entirely negative at the end of eighty-five, forty-six, seventy, thirty-three and fifty-four days respectively. In one case it became weakly positive with the Wassermann method (negative with Noguchi) at the end of a month and again changed to a strongly positive reaction coincident with a bad relapse of the clinical manifestations.

In observing the general action of salvarsan we were impressed by the remarkable tonic effect of the drug in a number of our patients. From three to five days after treatment a decided improvement in appetite, color and general appearance was noted, especially in Cases 1, 2, 7. In Case 13, however, in which the result of the injection was most favorable, the general condition of the patient seemed decidedly worse for about two weeks after treatment.

In all of the cases a rise of temperature occurred during the first few days after the injection. As a rule, it appeared at the end of twenty-four hours and continued for two or three days with morning remissions. The highest temperature recorded was 102.6 F.; while in the majority of cases it did not exceed 101. In one case the temperature curve was of an intermittent character. In no case was it accompanied by chills. In the case of leprosy the temperature rose to normal, having been subnormal for several weeks previous to the injection.

TABLE 1.—RESULT OF EXAMINATIONS FOR SPIROCHÆTA PALLIDA

Case No.	Lesions Examined	Spirochetes Present Before Treatment	End 24 Hours	Hours 48	72 Hours
1	Papules..	Large numbers.	Few.......	None.....	....
2	Ulcers ..	Few.......	Few.......	None.....	....
5	Chancre..	Large numbers.	Moderate numbers.	Few......	None.....
8	Papules..	Moderate numbers.	Few.......	None.....	....
13	Mucous patches	Enormous numbers.	Moderate numbers.	None.....	....

While the general febrile symptoms were slight and the cause of little or no disturbance to the patient, the same cannot be said of the local effects of treatment. In almost every case there was considerable pain for the first twenty-four hours following the injections, and as a rule the use of morphin became necessary. In a few cases it was very intense and lasted for about three days. The insoluble injections in the subcutaneous tissue appeared to be more painful than those given in solution in the gluteal muscles. In spite of the unavoidable pain, two of the patients cheerfully submitted to a second injection when relapses occurred.

The induration following the insoluble injections varied considerably in the different cases. It was generally well marked for the first week. In no case has it absolutely disappeared at the time of writing. In three cases (3, 5, 6) it was very severe, accompanied by redness and was the cause of considerable discomfort for about two weeks. No abscesses occurred, although in one case (6) there was a slight necrosis of tissue, followed by a serosanguinolent discharge for three weeks. The induration resulting from the soluble injections in

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[1] In four of the cases (1, 3, 7, 9) the insoluble injections were given according to the method of Wechselmann. This consisted in grinding up the salvarsan in a mortar with 2 c.c. of a 10 per cent. solution of sodium hydroxid. Glacial acetic acid was then added, drop by drop, until precipitation occurred, after which 2 c.c. of sterile water were added. The mixture was then made neutral [illegible] litmus by the further addition of either 2 per cent. acetic acid [illegible] sodium hydroxid, according to necessity. When completely [illegible] the suspension was centrifuged, the supernatant fluid pipetted off, the residue mixed with 10 c.c. of physiologic [illegible] on and thoroughly shaken. It was then ready for sub[illegible] jection. In six of the cases (2, 4, 5, 6, 8, 10) a neutral [illegible] was made by simply grinding up the salvarsan in a [illegible] h a 10 per cent. solution of sodium hydroxid. The latter [illegible] s added in the proportion of 1.33 c.c. for each decigram [illegible] the mixture being brought up to 10 c.c. in volume by [illegible] f physiologic salt solution. The salvarsan was pre[illegible] soluble injections as follows: The drug was added [illegible] t sterile water in a graduated glass cylinder con[illegible] glass beads, and dissolved at once on shaking. Two [illegible] mal sodium hydroxid solution were then added, causing [illegible] cipitation of the salvarsan, which was redissolved by the further addition, drop by drop, of the sodium hydroxid solution. The mixture was brought up to 20 c.c. in volume by the addition of sterile water and an intramuscular injection of 10 c.c. given in [illegible] h buttock.

TABLE 2.—RESULTS OF TWENTY INJECTIONS OF SALVARSAN

Case No., Sex, Age and Stage	Lesions	Duration of Lesions	Previous Treatment	Date, Dosage and Method of Injection	Local Effect of Injection	Wassermann Reaction	Result of Treatment
1—F.—47— II	Papular syphilid	5 weeks.	None	10/13/10.—Gm. 0.5 in suspension.	Pain rather severe for 12 hours; induration moderate.	Negative at end of 85 days.	Eruption almost disappeared at end of three months; improvement in general health one week after injection.
2—M.—19— II	Pustulo crustaceous syphilid of nose, ear, arms and legs.	8 months.	Continuous Hg. treatment by mouth eight months; grew worse under treatment.	10/15/10.—Gm. 0.4 in suspension.	Pain moderate, lasting 12 hours; induration slight.	Weakly positive end of month; then became strongly positive.	Marked improvement for three weeks, when relapse occurred. (See text.)
3—F.—32—III	Tuberculo-ulcerative syphilid of face.	2 years.	Hg. at irregular intervals by mouth and injection for two years; disease not controlled.	10/22/10.—Gm. 0.5 in suspension.	Pain severe; induration, redness and tenderness marked; slightly red end 2½ months.	Positive at end of 87 days.	Improvement began on second day; nasal discharge stopped at end of one week; crusted and ulcerated lesions healed in ten weeks.
4—F.—20— II	Chancre of lip; macular syphilid; mucous patches.	Eruption 6 days.	None	10/22/10.—Gm. 0.45 in suspension.	Pain and induration moderate and well borne.	Positive at end of 73 days; reaction weaker than at beginning.	Chancre healed in 3 weeks; eruption disappeared at end of 4 weeks; mucous patches healed in 4 days; severe relapse 6½ weeks from time of injection, consisting of mucous patches of mouth and vulva and macular and miliary papular syphilid.
5—F.—27—III	Gumma of clavicle; tubercular syphilid of lip.	Gumma 4 months; lip lesion 12 years.	Hg. at irregular intervals for many years; improved but never cured.	10/22/10.—Gm. 0.45 in suspension.	Pain moderate; induration and redness very marked at first; persisted 2 months.	Positive at end of 80 days.	Gumma nearly cured end one month (see text); lip lesion disappeared in ten days.
6—M.—32— II	Papulo-squamous syphilid; extensive mucous patches.	3 months.	Hg. by mouth for one month.	10/28/10.—Gm. 0.5 in suspension.	Pain and induration marked & persistent; slight tissue necrosis.	Negative at end of 46 days.	Disappearance of mucous patches in ten days; eruption disappeared end of 2½ months.
7—F.—20— II	Papular syphilid	3 weeks.	None	10/28/10.—Gm. 0.4 in suspension.	Pain and induration slight.	Negative at end of 70 days.	Marked improvement in general health at end of five days; gained 10 lbs. in weight since injection; eruption practically disappeared.
8—M.—37— II	Pustular syphilid	4 months.	Hg. by mouth for four months without effect on eruption.	10/29/10.—Gm. 0.5 in suspension.	Pain severe; induration slight.	Negative before and during entire treatment.	Moderate improvement at end of one week; patient failed to return to hospital.
9—M.—21— II	Maculo-papular syphilid	5 weeks.	None	10/29/10.—Gm. 0.45 in susp.	Pain severe first 12 hrs.; induration moderate.	Positive at end of 16 days.	Slight improvement during three weeks, when patient failed to return to hospital.
10—M.—34—III	Tuberculo-ulcerative syphilid of arm, shoulder and abdomen; ulceration of palate	4 months.	Hg. by mouth 2 weeks	11/3/10.—Gm. 0.5 in suspension.	Pain severe second day; induration slight.	Positive at end of 3 weeks.	Lesion healed in three weeks.
11—M.—38—III	Gummatous ulceration of hard and soft palate and ear.	6 months.	Hg by mouth, inunctions and injections, irregularly one year; Hg. very badly borne.	11/10/10.—Gm. 0.5 in solution.	Pain severe for 12 hours; induration lasted 3 weeks.	Negative during entire treatment. (See text).	Astonishing improvement at first; ulceration of palate reduced to half its size at end of one week; marked improvement in general health and appearance; lesions practically healed in 12 days, when relapse occurred. (See text.)
12—M—24— II	Mucous patches; laryngitis.	10 months.	None	11/10/10.—Gm. 0.45 in solution.	Severe pain; marked induration of buttocks 2 weeks.	Negative end of 54 days.	Mucous patches disappeared three days after injection; hoarseness began to improve on second day, and by fifth day voice was normal.
13—F.—46—III	Tuberculo-crustaceous serpiginous syphilid.	1 year.	None	11/15/10.—Gm. 0.5 in solution.	Severe pain for 2 days; marked induration of buttocks 3 weeks.	Weakly positive at end of 63 days.	Eruption almost disappeared at end of three weeks; entirely well at end of one month; general condition worse for two weeks as result of treatment, anemia, loss of appetite and weight.
14—F.—35—III	Gumma of soft palate and pharynx; gummatous infiltration of access. sinuses; deafness.	3 years.	Hg. and KI by mouth irregularly one year.	12/3/10.—Gm. 0.45 in solution.	Pain and induration moderate.	Positive at end of 46 days.	Gumma nearly healed at end of six weeks.
15—M.—43—III	Tuberculo-ulcerative syphilid of thigh.	7 months.	None	12/5/10.—Gm. 0.45 in solution.	Pain severe 6 days; induration marked and lasted 3 weeks.	Strongly positive at end of 43 days.	Lesions entirely healed at end of 3½ weeks.
16—M.—38—III	See Case 11. Second injection.	....	....	12/15/10.—Gm. 0.6 in solution.	Practically no pain or induration.	Continued to be negative.	Improvement of ulceration marked at end of first week; process then remained about stationary and relapsed slightly at end of third week.
17—M.—19— II	See Case 2. Second injection.	....	....	12/22/10.—Gm. 0.45 in sol.	Pain and induration slight.	Positive at end of 26 days.	Continued slow improvement for a month.
18—M.—	lar leprosy	6 years.	Chaulmoogra oil, strychnin and mercury.	1/5/11.—Gm. 0.4 in solution.	Pain severe; induration severe.	No examination made after treatment.	Absolutely no effect on lesions; since treatment has been confined to bed, his general condition having become markedly worse.
19—F.—	lceration	6 months.	None	1/12/11.—Gm. 0.6 in solution.	Pain severe; induration moderate.	Positive at end of 1 week.	Marked improvement in lesions at end of a week.
20—F.	...	9 months.	Practically none	1/12/11.—Gm. 0.6 in solution.	Pain 24 hours; no induration.	Positive at end of 1 week.	Improvement at end of one week.

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12—M—24— II	Mucous patches; laryngitis.	10 months.	None	11/10/10.—Gm. 0.45 in solution.	Severe pain; marked induration of buttocks 2 weeks.	Negative end of 54 days.	Mucous patches disappeared three days after injection; hoarseness began to improve on second day, and by fifth day voice was normal.
13—F.—46—III	Tuberculo-crustaceous serpiginous syphilid.	1 year.	None	11/15/10.—Gm. 0.5 in solution.	Severe pain for 2 days; marked induration of buttocks 3 weeks.	Weakly positive at end of 63 days.	Eruption almost disappeared at end of three weeks; entirely well at end of one month; general condition worse for two weeks as result of treatment, anemia, loss of appetite and weight.
14—F.—35—III	Gumma of soft palate and pharynx; gummatous infiltration of access. sinuses; deafness.	3 years.	Hg and KI by mouth irregularly one year.	12/3/10.—Gm. 0.45 in solution.	Pain and induration moderate.	Positive at end of 46 days.	Gumma nearly healed at end of six weeks.
15—M.—43—III	Tuberculo-ulcerative syphilid of thigh.	7 months.	None	12/5/10.—Gm. 0.45 in solution.	Pain severe 6 days; induration marked and lasted 3 weeks.	Strongly positive at end of 43 days.	Lesions entirely healed at end of 3½ weeks.
16—M.—38—III	See Case 11. Second injection.	....	....	12/15/10.—Gm. 0.6 in solution.	Practically no pain or induration.	Continued to be negative.	Improvement of ulceration marked at end of first week; process then remained about stationary and relapsed slightly at end of third week.
17—M.—19	See Case 2. Second injection.	....	....	12/22/10.—Gm. 0.45 in sol.	Pain and induration slight.	Positive at end of 26 days.	Continued slow improvement for a month.
18—M.—	ular leprosy	6 years.	Chaulmoogra oil, strychnin and mercury.	1/5/11.—Gm. 0.4 in solution.	Pain severe; induration severe.	No examination made after treatment.	Absolutely no effect on lesions; since treatment has been confined to bed, his general condition having become markedly worse.
19—F.	ulceration	6 months.	None	1/12/11.—Gm. 0.6 in solution.	Pain severe; induration moderate.	Positive at end of 1 week.	Marked improvement in lesions at end of a week.
20—F	...	9 months.	Practically none	1/12/11.—Gm. 0.6 in solution.	Pain 24 hours; no induration.	Positive at end of 1 week.	Improvement at end of one week.

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the buttocks was extremely variable in the different cases. It was greatest, as a rule, on the third day after treatment. In some of the cases it was slight and occasioned very little inconvenience. Two of the patients, however, complained of considerable lameness for about two weeks. While the pain and induration were by no means unbearable they were severe enough to make it very desirable to continue our experiments with other methods of injection, concerning which we hope to report in a later communication.

The result of the twenty injections from a clinical standpoint were in some respects encouraging, in other disappointing. The most brilliant symptomatic result was obtained in Case 13, in which a superficial tuberculo-crustaceous syphilid disappeared at the end of a month. Even in this case it is not impossible that a single injection of calomel or one or two injections of salicylate of mercury might not have accomplished the same results. An excellent result was also obtained in Case 5, in which a mild tubercular syphilid of the lip that had existed for twelve years (according to the patient's statement) disappeared at the end of ten days. A gumma at the sternoclavicular point occurring in the same patient was also healed at the end of a month. In three of the cases (1, 6, 7) presenting early papular syphilids, the results were apparently not so good as those that might have been obtained from mercury. The lesions, however, finally disappeared in each case, and the Wassermann reaction became negative.

In three tuberculo-ulcerative cases (3, 10, 15) and in a case of gumma of the pharynx and palate (14), the results were satisfactory from a clinical standpoint, although the Wassermann reaction has not as yet become negative. The result of treatment in Case 3 was especially gratifying, as it had been very difficult to control the disease with mercury. In three cases in which mucous patches were present (4, 6, 12) there was a most rapid disappearance of the lesions after injection. The result of treatment in the case of leprosy was most unsatisfactory. No change whatever occurred in the lesions and the patient's general condition has become decidedly worse.

Relapses occurred in three cases, in two of which we thought at first that splendid results had been obtained. One of these cases (2) presented a pustulo-crustaceous syphilid of somewhat malignant type that had grown worse under internal administration of mercury. The patient improved rapidly for a month, the Wassermann reaction becoming nearly negative and the ulcerated lesions of the nose, ear, arms and legs healing almost completely. He then suffered a severe relapse, his condition becoming nearly as bad as at the outset. He was given a second injection and the manifestations have again almost disappeared.

A disappointing relapse was also shown by a patient (Case 11) with extensive gummatous ulceration of the [illegible]rd and soft palate. The improvement was most striking [illegible] first, the ulcerated area being reduced to half its size at the end of a week. A relapse then [illegible] and the patient was given a second injection [illegible]s again followed by a relapse. As it is almost [illegible] to administer mercury to this patient it is our [illegible] give him one or two more injections of sal[illegible] near future.

[illegible] unwarranted to draw any general conclusions from our limited material. It must be [illegible]mitted, however, that the effect of the new remedy, in causing lesions to disappear rapidly, has been striking in several of our cases. In other cases, however, the lesions have disappeared rather slowly. In comparison with what might have been expected from a vigorous mercurial treatment, the results do not appear to be especially brilliant. In several of the cases the disease had not been controlled by mercury and responded very favorably to salvarsan. Indeed in one case (11) [illegible] patient had found it practically impossible to take mercury in spite of persistent attempts to administer the drug by mouth, inunctions and injections.

In the limited number of cases in which we have used salvarsan it has seemed to us that the lesions of the mucous membranes have yielded more quickly than those of the cutaneous surface. As has been said, the brilliant results in some cases have been only temporary and the relapses that have occurred have followed the improvement with discouraging rapidity. Our results are favorable enough to make us willing to continue our experiments with salvarsan in a larger and more varied number of cases than the ones that are here reported.

In conclusion we wish to thank Dr. George Henry Fox for much of the material and for the privilege of treating the cases at the Skin and Cancer Hospital; to Dr. Udo J. Wile for the spirochete examinations, and to Dr. Robert G. Reese for the ophthalmoscopic examinations.

616 Madison Avenue; 30 East Twenty-Eighth Street.

GENERAL CHEMICAL ASPECT OF INTERNAL SECRETION

RUSSELL H. CHITTENDEN, Ph.D.
NEW HAVEN, CONN.

Anyone who has watched the recent development of knowledge concerning the internal secretions cannot help being impressed with the significance of the results in their bearing on the chemical processes of the body. Not only have we learned that certain of the ductless glands, which hitherto were considered of little importance for the welfare of the organism, manufacture specific internal secretions all-powerful for the maintenance of health, but it has also been shown that these secretions owe their power to definite chemical substances, produced through the metabolic activity of the gland cells. The ductless glands become, then, miniature laboratories charged with the function of elaborating specific chemical products which are needed for maintaining the normal rhythm of nutrition. Let these glands cease their functional activity and the lack of their specific products entails disease and possible death. On the other hand, increased activity may be attended with equally disturbing results.

THE ADRENALS

A study of the product formed in the adrenals, for example, shows us that we have here a powerful substance, which in undue amount acts as a violent poison (0.2 mg. per kilo of body weight being a lethal dose for rabbits when given by intravenous injection), and in smaller amount exerts a striking influence on blood-pressure. This blood-pressure-raising constituent of the adrenals is a well-defined chemical substance, crystalline, basic in character and readily prone to undergo oxidation. Chemically it is a ketone-like body, having the structure of methylaminoacetopyrocatechol, and it is now made synthetically. To-day we fully recognize that the unique action of the internal secretion from this particular gland is due mainly, if not solely, to epinephrin, which fulfils a specific function both in health and in disease. Further, the marked vasoconstrictor action of this substance has led to its widespread use as a therapeutic agent, so that we now have the natural base and the synthetic product available for use in the treatment of diseased conditions. We understand, further, that the marked and sudden rise in blood-pressure that attends the introduction of epinephrin[1] is due to two causes, viz.. an accelerated and more energetic heart's action, together with a contraction of the smaller arteries and arterioles, especially those of the skin and in the region of the splanchnics. Section of the nerves is without visible effect on the blood volume, thereby indicating that epinephrin acts directly on the periphery, on the blood-vessels themselves.

Especially significant are the observations recorded bearing on a comparison of the natural base and the synthetic product, sometimes termed "suprarenin." The epinephrin prepared from the gland substance is optically active with a specific rotation of —51°. In other words, *it is a levo-rotary body. The synthetic base, on* the other hand, is optically inactive. Moreover, it has been demonstrated that the latter body has a far less powerful physiologic action than the natural base. Cushny, from his experiments, has concluded that natural epinephrin acts twice as strongly on blood-pressure as the synthetic or racemic epinephrin, and presumably also on the other organs affected by this substance. From this, the assumption is fair that dextro-epinephrin is without action as a vaso-constrictor. Finally, Flächer[2] has succeeded in splitting the optically inactive, synthetic epinephrin into its two optically active halves, and finds that the synthetic dextro-epinephrin and the natural dextro-epinephrin are physiologically identical.

Broadly speaking, the important point to be emphasized here is that the animal body in its special laboratory, the cell, follows a well-defined line of action producing compounds that are optically active; compounds in which the asymmetric carbon atom is conspicuous. The illustration of epinephrin is in harmony with many of the metabolic processes of the body in which an asymmetric carbon atom is a determining factor in the physiologic character of the substance. Nature makes use of optically active products, while the corresponding products turned out by the hand of man, though identical structurally, exhibit differences in steroisomerism.

The internal secretion from the adrenals may be taken as illustrating a form of chemical control, by means of which many of the processes of the body are capable of being modified. Variations in blood-volume and blood-pressure are conspicuous causes of modification in glandular activity, and we may well conjecture that variations in the amount of epinephrin produced and thrown into the blood-current may be responsible for many quantitative changes in function. Aside from this, we see in the marked glycosuria produced by epinephrin an illustration of specific action, the significance of which cannot be overlooked. Subcutaneous administration of epinephrin is followed by the appearance of dextrose in the urine, coupled with a true condition of hyperglycemia. As Elliott[3] has pointed out, the striking characteristic of ephinephrin is its tendency to stimulate plain muscle and gland cells that are or have been in functional union with sympathetic nerve fibers. In harmony with this fact, Underhill and Closson[4] suggest that the glycosuria produced by epinephrin is due to a stimulation of the sympathetic nerves leading to the liver or to other storehouses of carbohydrate, causing these organs to throw out their stored-up material in the form of dextrose. At the same time there may be a diminished storage of dextrose owing to stimulation of the hepatic cells by the epinephrin, thus causing these cells to reject the dextrose brought to them. However this may be, small quantities of epinephrin injected lead to a marked glycosuria, and apparently by an action on the nervous system through the intermediation of the sympathetic.

We thus have suggested the picture of a miniature gland endowed with the function of producing a powerful chemical substance which may serve to control and modify many of the processes of the body. Its importance to the organism is fully apparent from the results that fol*low complete extirpation of the adrenals, while its phys*iologic strength is equally manifest from the effects of subcutaneous injections of epinephrin.

THYROIDS AND PARATHYROIDS

Equally striking are the data that can be presented in connection with the thyroids and parathyroids. Ignoring all matters of detail, there stands out prominently one fundamental fact that in these tissues there is produced a peculiar chemical complex—characterized by containing iodin—known as iodothyrin. The chemical nature of this substance is not as fully understood as that of epinephrin, but it is apparently a cleavage product of a still larger protein complex. However this may be, the active principle is endowed with marked physiologic power. Extirpation of the thyroid tissues is followed by profound changes leading to myxedema, tetany, retardation of skeletal growth, etc., conditions which can be prevented or obviated in greater or less degree by administration of thyroidal tissue. Similarly, diseases which are associated with functional disturbance of the thyroids can be made to show great improvement by feeding sheep's thyroids or by administering iodothyrin. There are many interesting facts that might be cited regarding the relative significance of the thyroids and parathyroids, but the point to be emphasized here is that the thyroidal tissues manufacture one or more specific chemical substances which are essential for normal growth and development; substances which either directly or indirectly control certain nutritive processes on which good health and life itself depends.

Physiologic experiment shows us that iodothyrin fed to healthy animals tends to accelerate in small degree nitrogen metabolism. It likewise causes an increased excretion of phosphorus as phosphoric acid through the urine and also appears to stimulate the combustion of fatty material. There is thus apparent a certain ground
for the assumption that normally the thyroid gl[illegible] could
essential factors in the regulation of body m[illegible]t ensued,
Further, experiments seem to show that if all
tissue is removed from a healthy animal there [illegible] F. The
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appearing in the urine if this sugar is i[illegible]xtremities were
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Again, in the pituitary there is *accumulati*[illegible] p. m. on
that the pars intermedia *of this body produces,* [illegible]

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[1] In the original text of this article the term "adrenalin" was used, but in a general sense, and not with reference to any particular firm's make.

[2] Flächer: Ztschr. f. physiol. Chem., lviii, 189.

[3] Elliott: Jour. Physiol., 1905, xxxii, 401.

[4] Underhill and Closson: *Am. Jour. Physiol.*, 1906, xvii, 42.

words of Professor Schäfer,[5] "a 'colloid' material which contains active principles or hormones acting on the heart, blood-vessels and kidneys. Probably there are several such hormones acting on the blood-vessels and kidneys independently, and also acting antagonistically; so that according to circumstances either a rise or a fall of blood-pressure, an increased or a diminished secretion of urine may be produced, and the effects on the kidneys may be independent of those on the blood-vessels."

CORRELATION OF INTERNAL SECRETIONS

These brief statements and suggestions may be taken as emphasizing the specific action of definite chemical substances which constitute the basis of certain internal secretions. It is becoming apparent, further, that these ductless glands in their physiologic activity also exercise a regulating action on each other; that they are in some manner correlated. Clinicians have frequently called attention to the fact that a disturbance or impairment of function of one ductless gland quite commonly leads to a disturbance in the functional activity of some other ductless gland. Evidence at present available, for example, tends to indicate that the pancreas and the thyroid mutually retard the action of each other. The same is believed to be true of the pancreas and the chromaffin system, while the thyroid and the chromaffin system mutually increase the action of one another.[6] As to the explanation of these phenomena we can at present only conjecture, but there is a strong suggestion that chemical reactions are involved here, the full meaning of which can hardly be hoped for until we know more concerning the chemical composition of the secretion concerned.

My object, however, in referring to these unsettled questions is merely to emphasize the many ways in which these internal secretions probably act in the body, and the consequent importance of the chemical regulation they exercise in controlling metabolic processes. But it is to be remembered that in touching on the ductless glands we are only at the threshold of the subject. The pioneer work of Baumann in 1895 with the thyroid gland, accompanied by the discovery of iodothyrin, led to a fuller realization of the significance of internal secretion in general. Physiologists soon came to appreciate the far-reaching influence of the continual exchange of matter between all the living cells of the organism and the surrounding blood, lymph and tissue juices. In other words, there has come about a fuller realization of the fact that, broadly speaking, internal secretions may be considered as common to every group of specialized cells and that their chemical nature and physiologic action merit consideration. The ductless glands serve to illustrate special forms of internal secretion, the active substances of which are of the utmost importance to the organism. To-day, however, we recognize that the cells of every organ and tissue of the body are continually forming intermediate products [illegible]nd-products, which are absorbed by blood and [illegible] and which may serve as stimulants to other tissue [illegible] in some manner exercise an influence on the [illegible] processes of other organs or tissues. These [illegible]nternal secretion are, many of them at least, [illegible]rtance, and merit as much consideration as [illegible] that originate in the ductless glands. [illegible] mind, lies the fundamental point to be [illegible]zed in considering the chemical aspects of internal secretion. Chemical correlation, chemical control, stand out with startling distinctness, and this in a general way is equally true of every active gland and tissue of the body. It is as true of a gland like the pancreas, which has for one of its functions the manufacture of a specific digestive fluid, as it is of the thyroid, which apparently produces only an internal secretion. Even the excretory organs, like the kidneys, which seemingly are concerned solely in draining from the blood certain so-called waste-products, are plainly susceptible to the physiologic action of some of the substances they elaborate; the epithelial cells of the glomeruli and tubuli, for example, being noticeably sensitive to the action of purins, uric acid, etc.

Look also at the process of respiration, in which the waste product carbon dioxid, resulting from the metabolism of every tisssue cell, acts as a stimulant to the mechanism in the central nervous system, by which regulation of the respiratory movements is accomplished. Equally suggestive, though more specific in character, are the other "hormones" so thoroughly studied by Bayliss and Starling, emphasizing as they do the important part played by many internal secretions emanating from particular groups of cells in starting or controlling processes taking place in other glands or tissues. In the secretion of the pancreatic juice, the hypothetic nerve-control so long sought for gives place to a chemical control through the prosecretin manufactured in the epithelial cells of the upper part of the intestine. This substance, under the influence of the hydrochloric acid of the gastric juice, undergoes conversion into secretin, and then brought to the pancreas by the blood sets up a voluminous secretion of pancreatic juice. Again, in the intestine we find a specific substance elaborated, enterokinase, which, reacting with the trypsinogen of the pancreatic secretion, converts it into an active proteolytic enzyme. In the mammary gland we have another equally striking suggestion of chemical stimulation resulting from a substance or substances produced in a remote structure, by which the process of lactation is made possible. As the experiments of Claypon and Starling[7] indicate, the growth of the mammary glands during pregnancy is apparently due to the action of a specific chemical stimulus which has its origin in the fertilized ovum. The amount of this substance increases with the growth of the fetus and is therefore largest during the latter half of pregnancy. Lactation is supposed to be due to the removal of this particular substance, or hormone, which is therefore to be regarded as exerting an inhibitory influence on the mammary gland cells, hindering their secretory activity and furthering their growth. To quote more fully from Claypon and Starling:

> During sexual life, therefore, the ovaries are continually producing a substance which exerts an influence on both glands and uterus. With the occurrence of conception there is at once a great growth of what we may call germinal material. With the growth of the fertilized ovum the amount of hormone produced in the ovum must also increase in proportion. In the early stages of pregnancy the chief source of this hormone may perhaps be located in the chorionic villi, but with the growth of the body of the fetus this latter must take a preponderating share in the preparation of the hormone. We have no reason to suppose that fetal elements of the placenta entirely lose this function of the germinal cells, but the negative results of injection of placentæ in our experiments show that it is impossible to ascribe to the placenta, as is done by Halban, a preponderating part in the preparation of this hormone.

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[5] Schäfer: Croonian Lecture, 1909. Proc. Roy. Soc. B., xxxi, 442.

[6] King: Jour. Exper. Med., xi, 666.

[7] Claypon and Starling: Proc. Roy. Soc., B., lxxvii, 505.

CONCLUSION

Facts such as these, like the data gradually collecting regarding the internal secretions from the ductless glands, emphasize the part which specific chemical products play in the regulation of body metabolism; they serve to call attention to the importance and the general application of the methods of chemical control which the organism makes use of in regulating its affairs. Further, products of tissue metabolism in general, whether classified as intermediate or as end-products, in their passage through the circulation have abundant opportunity to exercise an influence on the activity of other tissues or organs. They are true internal secretions, as much so as the more specific products which are apparently formed for some special purpose, and as such they illustrate the truth of the general hypothesis that the products of all tissue cells are efficacious in greater or less degree as forms of chemical control in the processes of the body.

THE INTERNAL SECRETION OF THE PANCREAS

W. G. MACCALLUM, M.D.
NEW YORK

Ever since the early experiments which culminated in those of von Mering and Minkowski, showing that removal of the pancreas causes the most profound and extraordinary disturbances in the general metabolism, and more especially in the metabolism of carbohydrates, the search for an explanation has been most active. Notwithstanding the fact that the literature on this subject is enormous and that many side-lights have been cast on the problem, it is still impossible for us to say with any certainty just what we have done in extirpating the pancreas to cause all these changes, and the further the matter is studied the more complex seem the possible relations which exist, not only between this organ and the tissues which are especially concerned in the assimilation and metabolism of the foodstuffs of the body, but also the relations which it bears to the nervous system and to other organs or groups of organs which are important to the economy in a somewhat similar way.

The pancreas has a complicated structure and it seems clear that its functions are manifold, for on the one hand by its secretions, which are poured into the intestine, it plays an extremely prominent rôle in the preparation of all classes of food for absorption, while on the other hand there still remain the functions which we can see so obscurely in their relation to general metabolism and which are apparently quite independent of this external or intestinal secretion. The nature of these latter functions must form our subject for discussion to the exclusion of the former.

Nearly everyone in these days of ferments thinks of this influence of the pancreas as being carried out by the aid of some chemical material which is secreted into the blood-stream, and only Pflüger has maintained that there is no such internal secretion, but that the results of extirpation are due to injuries to the nervous system at one point or other. The idea of a chemical internal secretion is suggested and supported by the observations on other organs whose influence over metabolism is great, and for some of which an extract can be obtained which will practically take the place of the organ if it be destroyed. Such direct proof can hardly be brought for the pancreas, but still the evidence which I shall recount is so strong that we can hardly escape from the conclusion that there is an internal secretion even though we may not say exactly how and where it acts.

The simplest case in which we can study the functions of an organ is perhaps that in which these functions are abolished. There are many conditions in which we suspect an insufficiency of the pancreas and many others in which similar symptoms are due to other things, and although these two throw light on the function of the pancreas, it is perhaps best to base our considerations chiefly on the results of extirpation of the gland. This is promptly followed in all animals by the appearance in the circulating blood of an excessive amount of sugar, much of which passes into the urine, causing glycosuria. The organs lose their power to store up glycogen, there is a very great increase in the breaking down of proteins and of fats, the animal becomes emaciated and in some cases, owing probably to the abnormal decomposition of the fat, there appear in the blood and urine various acid substances, beta-oxybutyric and diacetic acids and acetone, which are very poisonous and often cause death in human beings the subject of diabetes by producing the so-called diabetic coma.

All of this is obviated by the presence of the pancreas, and not necessarily the whole pancreas; a portion of it is sufficient to maintain the animal in health, as was shown by Minkowski, who transplanted a part, with its blood-vessels, into the abdominal wall and removed the rest.

This being so, the question at once arises as to what part of the pancreas is responsible for this function and what is the mechanism of its action. I shall pass over here with but brief mention the experiments of Pflüger in which he contends that the separation of the pancreas from the duodenum and the tearing of nerves is responsible for glycosuria, for, as we shall see, much greater injury can be done with no such effect. The whole subject of the relation of the pancreas from an anatomic point of view, and especially of the relation of the islands of Langerhans to glycosuria and diabetes, has been so well reviewed by Sauerbeck that there is but little to add to what he brings forward. Briefly, the dispute hangs on whether the islands of Langerhans alone possess this all-important function or whether the pancreatic glandular substance in general is concerned; and it is well known that basing their opinions on pathologic cases, Opie, Ssobolew and many others hold to the view that the prevention of glycosuria, etc., is a specific function of the islands, while Hansemann, Herxheimer and others find the evidence for this inclusive and maintain that diabetes is due in each case to an inadequate functioning of the whole pancreas. The theory as to the special relation of the islands of Langerhans to diabetes was suggested to Opie by the discovery of a case of diabetes mellitus in which while the pancreas in general was practically normal the great majority [illegible] islands of Langerhans had undergone a hya[illegible] morphosis and were thus thrown out of func[illegible] the other hand, it is possible to ligate the [illegible] ducts and thus to cause the atrophy of all [illegible] the gland without affecting the islands [illegible] which have no connection with the du[illegible] condition no glycosuria results. Even [illegible] results of an experiment which I described [illegible] publication in which a portion of the pancreas [illegible] ligated off from the rest and allowed to undergo atrophy for a year. At the end of that time its place in [illegible] mesentery, marked out by a black ligature, showed only a thin film of opalescent tissue composed practically entirely of islands of Langerhans. At this time the remainder of the pancreas was extirpated and after a transient glycosuria the dog recovered completely and was able to take by mouth nearly 40 gm. of glucose at one dose without showing any glycosuria. The subsequent extirpation of the film of tissue which had been left behind caused the development of the most intense and persistent glycosuria. The inference seems justified that the islands of Langerhans alone are able to maintain carbohydrate metabolism.

Interesting results which bear on the nature of the pancreatic function are brought forward by Forschbach, who produced the condition of parabiosis in two animals. The effect of the extirpation of the pancreas in one was annulled by its connection with the other. Since this was a vascular connection only, nervous influences could be ruled out and the symptoms must have been prevented by some substance passing from one animal to the other. In spite of this apparently conclusive evidence of the existence of some internal secretion of the pancreas we have not been able to demonstrate it satisfactorily by positive methods as in the case of the thyroid, although Zuelzer claims to be able with a deproteinized extract of the pancreas to annul the glycosuria which follows pancreatectomy. Indeed, we are not even informed as to where such a secretion must exert its function.

It has been shown that in most cases after extirpation of the pancreas, the liver and other normal depots are extremely poor in glycogen, and Ivar Bang makes the statement that the function of the internal secretion of the pancreas is to control the storage of sugar in this form—without it there must be an excess of soluble sugar in the blood and consequently glycosuria. A moment's reflection will make clear, however, that this could not in itself explain the phenomena of pancreatic diabetes, for when the pancreas is extirpated in hungering and glycogen-free animals there suddenly appears, without the intake of any carbohydrates, a great excess of circulatory sugar and glycosuria. The disturbance is far deeper than the mere inability to polymerize and store sugar. There is actually a new formation of sugar from proteins and from fats; even the tissues are consumed, and that portion of their molecules which will form sugar is set free as such in the circulating blood. Nor can we find a satisfactory explanation in disturbances in the activity of diastatic ferments which set free the sugar from its polymerized form. It seems quite possible that the pancreas may control this in some way, allowing only so much as is necessary to be turned into the circulation, so that when its influence is lost, mobilization of the sugar is too rapid. In this sense it is actually found (Zuelzer, Falta and others) that the addition of pancreatic extract to adrenalin will prevent the production of glycosuria by that substance, and that the
constipation of the pancreas by pilocarpin will in some
unable to prevent the production of adrenalin[1] glyco-
hand untill it is obvious as before that this cannot be
use the [illegible] for the changes in pancreas diabetes, for as
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desc[illegible] in the tissues it is oxidized to furnish and energy, but it appears that this oxidation is not easy unless the sugar be first split into somewhat simpler substances, a process which may be spoken of as glycolysis and conceived of as being carried out by a glycolytic ferment. The most earnest efforts have been made to determine the existence of such ferments in the body and if possible to ascertain the relation they bear to the pancreas. The results have been roughly as follows:

Lepine and others have declared the existence of glycolytic ferments in all tissues—not merely in the pancreatic secretion—and have regarded them as the universal agents promoting the oxidation of sugars. Stoklasa and his pupils find in all organs a ferment which decomposes carbohydrates with the formation of alcohol and carbon dioxid, and Feinschmidt, too, speaks of glycolysis as an independent process not even necessarily bound to the living cell. On the other hand attention has been called more recently to the possible part played by the pancreas in this process. Schade thinks of the whole process of decomposition of sugar as probably a catalytic process for which there are many analogies, and suggests that the internal secretion of the pancreas may be a catalyzer. Rahel Hirsch has found that there is a "proferment" in the pancreas which aids glycolysis in the liver; and about the same time Cohnheim announced in several papers that he had demonstrated that an extract of the pancreas was actually necessary to glycolysis in the muscles. By studying a mixture of glucose and muscle juice he showed that very little glycolysis (evidenced by the disappearance of the sugar) occurred, but that if an extract of pancreas were added the sugar disappeared very rapidly. This extract, he states, can be boiled and is soluble in alcohol; it is therefore not a ferment, but behaves as an activator to the enzymes normally present in the muscle. When added in excess it inhibits the action of the enzymes, possibly by deviating it from its relations with the sugar. This forms a very tempting explanation of the hyperglycemia in pancreatic diabetes, and it is just at this point that we feel it most likely that the internal secretion of the pancreas should act. Arnheim, Rosenbaum, Hall, De Witt and others have supported him, but Claus and Embden have repeated his experiments as exactly as they could and have found no effect from the pancreatic extract on the disappearance of sugar. With all possible modifications they have repeated their work, but the result is the same and they offer no explanation unless it be the obvious possibility that bacteria may have played a part, an objection which may be made to all these complicated experiments in which nutritive solutions must be kept for hours in a thermostat. Cohnheim replies that their results depend on neglect of the inhibition by excess produced by the activator or perhaps on the use of salt solution in their extracts, but admits that unless special care be taken to get the muscle free from blood its juices alone are active to a certain
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That it does not act quite independently of the other organs of internal secretion is evident, however, from a whole series of observations on the effects of hypersecretion or hyposecretion of these organs on the supposed field of activity of the pancreas. In nearly every instance the occurrence or non-occurrence of glycosuria has been adopted as the test and a complicated network of effects has been woven about this test. In itself glycosuria can be produced by a great variety of measures, some of which act by way of the nervous system; others, such as cantharidin, the salts of many metals and phloridzin, seem so to affect the kidneys that they become permeable for sugar and allow of a glycosuria even when there is little or no hyperglycemia. This latter group we may set aside at once, but the others seem to bear a closer relation to the activities of the pancreas itself, or, at any rate, to the structures which it influences. Thus the diabetic puncture of Claude Bernard which consists in puncturing a certain point in the floor of the fourth ventricle of the brain, the stimulation of sensory nerves which acts reflexly, the direct stimulation of the splanchnic sympathetics or their chemical stimulation by asphyxia or asphyxiating agents such as ether, morphin, etc., or by drugs such as caffein, diuretin, etc., all produce glycosuria with hyperglycemia. Some of them act on the more sensitive central nervous elements, while others, such as caffein and adrenalin can stimulate the peripheral terminations of the nerves. In accordance with this the effects of some are annulled by cutting the splanchnics, while others are not.

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Another phase of the question is brought to light when we consider the relation of the thyroid to these functions. The introduction of an excess of the thyroid secretion often leads to glycosuria. This is the explanation generally given of the glycosuria in Graves' disease. On the contrary, the extirpation of the thyroid (preserving the parathyroid intact) has quite the opposite effect. Then it is difficult to produce alimentary glycosuria (McCurdy, Falta, and others); the injection of adrenalin no longer produces glycosuria in the strength of solution formerly used (R. Hirsch, Falta, and others); and the glycosuria following the administration of ether is no longer obtainable (Grey and de Sautelle). When tetany is produced by simultaneous removal of the parathyroids the results are quite different, and the glycosuria is even accentuated (Falta). Even the glycosuria following pancreatectomy is diminished by extirpation of the thyroid.

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mesentery, marked out by a black ligature, showed only a thin film of opalescent tissue composed practically entirely of islands of Langerhans. At this time the remainder of the pancreas was extirpated and after a transient glycosuria the dog recovered completely and was able to take by mouth nearly 40 gm. of glucose at one dose without showing any glycosuria. The subsequent extirpation of the film of tissue which had been left behind caused the development of the most intense and persistent glycosuria. The inference seems justified that the islands of Langerhans alone are able to maintain carbohydrate metabolism.

Interesting results which bear on the nature of the pancreatic function are brought forward by Forschbach, who produced the condition of parabiosis in two animals. The effect of the extirpation of the pancreas in one was annulled by its connection with the other. Since this was a vascular connection only, nervous influences could be ruled out and the symptoms must have been prevented by some substance passing from one animal to the other. In spite of this apparently conclusive evidence of the existence of some internal secretion of the pancreas we have not been able to demonstrate it satisfactorily by positive methods as in the case of the thyroid, although Zuelzer claims to be able with a deproteinized extract of the pancreas to annul the glycosuria which follows pancreatectomy. Indeed, we are not even informed as to where such a secretion must exert its function.

It has been shown that in most cases after extirpation of the pancreas, the liver and other normal depots are extremely poor in glycogen, and Ivar Bang makes the statement that the function of the internal secretion of the pancreas is to control the storage of sugar in this form—without it there must be an excess of soluble sugar in the blood and consequently glycosuria. A moment's reflection will make clear, however, that this could not in itself explain the phenomena of pancreatic diabetes, for when the pancreas is extirpated in hungering and glycogen-free animals there suddenly appears, without the intake of any carbohydrates, a great excess of circulatory sugar and glycosuria. The disturbance is far deeper than the mere inability to polymerize and store sugar. There is actually a new formation of sugar from proteins and from fats; even the tissues are consumed, and that portion of their molecules which will form sugar is set free as such in the circulating blood. Nor can we find a satisfactory explanation in disturbances in the activity of diastatic ferments which set free the sugar from its polymerized form. It seems quite possible that the pancreas may control this in some way, allowing only so much as is necessary to be turned into the circulation, so that when its influence is lost, mobilization of the sugar is too rapid. In this sense it is actually found (Zuelzer, Falta and others) that the addition of pancreatic extract to adrenalin will prevent the production of glycosuria by that substance, and that the constip[illegible]tion of the pancreas by pilocarpin will in some unable t[illegible]o prevent the production of adrenalin[1] glycohand unt[illegible]till it is obvious as before that this cannot be use the [illegible] for the changes in pancreas diabetes, for as adenoids r[illegible]id, they appear in hungering animals in *Physical* [illegible]s no glycogen to saccharify so that the throughout c[illegible] still deeper.

eyes react to [illegible] is carried to the tissues by the blood and cannot co[illegible] in the tissues it is oxidized to furnish warmth and energy, but it appears that this oxidation is not easy unless the sugar be first split into somewhat simpler substances, a process which may be spoken of as glycolysis and conceived of as being carried out by a glycolytic ferment. The most earnest efforts have been made to determine the existence of such ferments in the body and if possible to ascertain the relation they bear to the pancreas. The results have been roughly as follows:

Lepine and others have declared the existence of glycolytic ferments in all tissues—not merely in the pancreatic secretion—and have regarded them as the universal agents promoting the oxidation of sugars. Stoklasa and his pupils find in all organs a ferment which decomposes carbohydrates with the formation of alcohol and carbon dioxid, and Feinschmidt, too, speaks of glycolysis as an independent process not even necessarily bound to the living cell. On the other hand attention has been called more recently to the possible part played by the pancreas in this process. Schade thinks of the whole process of decomposition of sugar as probably a catalytic process for which there are many analogies, and suggests that the internal secretion of the pancreas may be a catalyzer. Rahel Hirsch has found that there is a "proferment" in the pancreas which aids glycolysis in the liver; and about the same time Cohnheim announced in several papers that he had demonstrated that an extract of the pancreas was actually necessary to glycolysis in the muscles. By studying a mixture of glucose and muscle juice he showed that very little glycolysis (evidenced by the disappearance of the sugar) occurred, but that if an extract of pancreas were added the sugar disappeared very rapidly. This extract, he states, can be boiled and is soluble in alcohol: it is therefore not a ferment, but behaves as an activator to the enzymes normally present in the muscle. When added in excess it inhibits the action of the enzymes, possibly by deviating it from its relations with the sugar. This forms a very tempting explanation of the hyperglycemia in pancreatic diabetes, and it is just at this point that we feel it most likely that the internal secretion of the pancreas should act. Arnheim, Rosenbaum, Hall, De Witt and others have supported him, but Claus and Embden have repeated his experiments as exactly as they could and have found no effect from the pancreatic extract on the disappearance of sugar. With all possible modifications they have repeated their work, but the result is the same and they offer no explanation unless it be the obvious possibility that bacteria may have played a part, an objection which may be made to all these complicated experiments in which nutritive solutions must be kept for hours in a thermostat. Cohnheim replies that their results depend on neglect of the inhibition by excess produced by the activator or perhaps on the use of salt solution in their extracts, but admits that unless special care be taken to get the muscle free from blood its juices alone are active to a certain degree. All these experiments were performed with admixture of antiseptics, and Stoklasa rather both objects that this removes them far from physiologic conditions. It seems true that they would be crude and not entirely satisfactory even if the results were in unison, but with such contradictions among competent workers it is difficult to estimate precisely the standing of the pancreatic activator. In these experiments further, no attention is paid to the end-results of the reaction—the first splitting of the sugar which renders it incapable of reducing copper is as far as they go.

If, however, we could feel sure that without the pancreatic secretion no glycolysis or oxidation of sugar could occur, would that explain all the features of pancreatic diabetes? It is known that the general oxidation is maintained at about the normal level and it seems evident that the lack of carbohydrate metabolism merely requires the intensification of protein and fat metabolism with the results mentioned above.

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We know so little about the action of the hypophysis that it is difficult to discuss it here; but it may be recalled that glycosuria sometimes occurs in disease of the hypophysis, and Borchardt has been able to produce it by injections of hypophyseal extract.

Eppinger, Falta, and Rudinger have made a great many of these experiments, and have added much to the knowledge of the interrelation of the organs of internal secretion. These interrelations they attempt to express in the form of a scheme in which the thyroid, pancreas, and chromaffin system are shown in their relation to one another. In this triangle the thyroid and pancreas are represented as mutually inhibiting one another's activities; so, too, the pancreas and chromaffin system; while the thyroid and chromaffin system promote the activities of one another. On this basis they can explain, without too much forcing, all or nearly all of the phenomena. It must be said, however, that this seems to be merely stating in rather vague phraseology the results, of which we know so little, of the mechanism, and there can be no doubt, in spite of the possible value of this scheme in suggesting further experiments, that a satisfactory explanation can rest only on definite chemical studies.

To me it seems more probable that the chromaffin system is concerned, not with the activity of the pancreas, but with the mobilization of sugar; that the pancreas is similarly concerned, not with inhibiting the activity of the adrenals, but with causing the glycolysis of the free sugar; while the secretion of the thyroid, if in excess, interferes with this glycolytic action of the pancreatic ferment. How far the other organs of internal secretion are concerned in this usually smoothly working mechanism remains to be discovered.

The literature on any other internal secretion of the pancreas is relatively meager, and most investigators take it for granted that the appearance of fat in the stools in depancreatized animals is merely the effect of the loss of the fat-splitting ferment of the external secretion. The lipemia which sometimes occurs even in human cases of diabetes can not be explained thus, however, and Lombroso has shown that more fat appears in the stools than is taken in with the food, and that it has different characters and a higher melting point than that fed. It must be reexcreted into the intestine. The ligation of the pancreatic duct seems not to produce any such extreme disturbance in the fat metabolism, and on that account the suggestion is made that there may be an internal secretion governing this. Further investigations of this point are necessary.

437 West Fifty-Ninth Street.

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nether conscious or not; and pain is a motive for dread even
when it is not mortal."—W. K. Walker, in *Pennsylvania Medical Journal.*

PRESENT KNOWLEDGE OF THYROID FUNCTION

S. P. BEEBE, M.D.
Professor of Experimental Therapeutics, Cornell University Medical College
NEW YORK

At the present time we know that the thyroid gland fills a very important function in the animal body. We do not know the precise details as to how this function is fulfilled, and because of our lack of knowledge on this point we may more readily turn the discussion to the consideration of theories than is the case in regard to the other tissues which have been more thoroughly studied and concerning which we have more definite information.

One of these theories is deserving of recognition merely for the purpose of rejection. I refer to the ideas sponsored by Blum, Notkin and others—the so-called neutralization theory. These investigators have stated that the function of the thyroid is to detoxicate certain metabolic products which arise in the animal body, and this action they conceive to take place in the thyroid itself and to be accomplished by the union of iodin with the metabolic product. By such a means the toxic, deleterious effects of these products are prevented, and one of the strongest arguments in support of their theory has been the experiment of Blum who showed that if the secretion from the thyroid gland was artificially combined with iodin, it no longer had characteristic thyroid effects. The more completely these proteins are saturated with iodin the less harmful they are.

Such being the case, it follows that if the extracts of the gland contain little iodin, we should expect very active toxic effects from it since the metabolic toxins have been only partially rendered innocuous. Second, it must follow that if the action takes place only within the thyroid gland, removal of the thyroid must render it impossible for thyroid function to be subserved in such an animal. We know that both of these propositions are incorrect. We know that if thyroid protein is administered to animals and patients in whom the gland is entirely lacking, or pathologically so damaged as to be incapable of function, it causes such physiologic changes as to make the animal in most respects normal. The proper functioning of the extract does not require the presence of the gland.

It must be evident, therefore, that the physiologic action of this secretion is exerted on other tissues than the thyroid. We know, likewise, that thyroids containing little iodin show comparatively little of the characteristic thyroid effect, while those containing much iodin are much more active physiologically. There is absolutely no reason whatsoever for supposing that the artificial addition of iodin to the thyroid protein *in vitro* is in any way comparable to the action which is accomplished by the epithelial cell of the gland. No artificially prepared iodin-containing substance has an effect similar to that of thyroid secretion, or can be used as a substitute for thyroid secretion. Both of these conclusions are well established and they are sufficient to controvert successfully the belief that the thyroid function is entirely accomplished within the gland itself. The function of the gland is to produce a substance which is absorbed into the circulating fluids of the body to act on some of the distant tissues, and it probably is not of benefit to the animal for physiologic purposes except as reserve material while it remains in the gland. Except for the fact that the gland does not have a *definite duct,* there is no reason why it should be classed with the glands of internal secretion.

We know that the physiologically active portion of the gland secretion is a protein substance containing iodin in a specific organic combination. The iodin is probably combined with some aromatic group in the molecule. Precisely what its structure is, we do not know. No substance having similar properties has ever been prepared in the laboratory. It does not seem probable that there is only one kind of protein substance which contains iodin. There is a very wide variation in the size of the normal thyroid gland and likewise in the iodin content of the protein taken from glands of individuals who have no apparent thyroid abnormality, as regards either structure or function.

If one attempts to separate the proteins from the thyroid gland into various groups, one finds it possible to obtain a number of different fractions, all of which are true proteins and all of which contain iodin, though the iodin content varies widely. I have never been able to obtain a definite protein or proteose from the thyroid absolutely free of iodin. This is contrary to the findings of many other investigators. The protein which in my experience answers all the physiologic requirements is readily prepared from normal thyroid glands by extracting the pulverized tissue with physiologic salt solution, filtering through gauze and paper pulp and from this clear filtrate obtaining a precipitate by acidifying with acetic acid and heating to 44 C. This protein corresponds to the thyroglobulin described by Oswald. From the clear filtrate other proteins and proteoses may be separated by heating to a higher temperature, and by the addition of various salts. As previously stated, all these protein fragments contain iodin, but the protein first separated contains a much larger percentage of iodin than any of the others. In extracts of beef and pig glands, acetic acid gives an abundant precipitate before heating, but in human and sheep glands, the heating is necessary to cause a separation of protein.

It seems probable that the thyroid function is dependent on the presence of iodin in the molecule and most investigators are agreed that the physiologic activity of the secretion is at least roughly proportional to the iodin content. I believe that we do not yet have convincing evidence that iodin-free thyroid has characteristic function. Hunt has devised a quantitative method for measuring thyroid activity depending on the protection of mice to aceto-nitrile poisoning. In his hands this method has yielded most remarkable results. In my judgment the iodin value is quite as accurate and much simpler in application.

We have yet no evidence to show that differing qualitative effects are produced by thyroid from different types of glands with different iodin values. The normal thyroid contains alveoli filled with the colloid substance which is largely made up of the particular globulin having characteristic thyroid activity. The quantity of this particular protein varies widely in different glands. No structure in the body shows such marked changes in its histologic characteristics as the thyroid.

The facilities for the absorption of this material are apparently not such as to provide for taking up a large quantity in a short space of time, and the question arises as to how large an amount of this material must enter the circulation in a unit of time in order to satisfactorily carry on the thyroid function. As far as we can judge from experimental conditions, the sensitiveness of different animals and different individuals to thyroid shows wide variations. In some instances I have produced noticeable effect in a human adult by the hypodermic administration of 5 mg. of protein prepared as above from normal glands containing between 0.32 and 0.36 mg. of iodin per gram of fresh gland. In other cases, 0.01 gm. has shown decided activity, while 0.06 gm. usually shows quite pronounced effects even in normal individuals. In several cases of cretinism I have found 0.01 gm. of this protein has been effective in completely ameliorating symptoms. In myxedema, 0.03 gm. of these proteins taken each day has kept the symptoms completely under control. On the other hand, I have had individuals taking 0.5 gm. daily for considerable periods without producing any other effect, as far as could be determined, than that of general well-being. There is then a very wide variation between the limits of the amount required to maintain health and the amount which an individual may take without causing marked physiologic disturbance. Furthermore, if so small a quantity of protein as that mentioned is sufficient to satisfy the needs of the average individual for thyroid function, we need not suppose that the venous blood or the lymph coming from a thyroid should contain very much of this secretion. Three-hundredths of a gram of this protein put into the blood which flows through a normal gland in one day (and this has been estimated by Kraus to be fourteen times the total volume of blood in the body) would not give an appreciable addition in iodin. It furthermore indicates what a large factor of safety there is in a normal thyroid gland. Such a gland would average about 20 gm. in weight from which there might be obtained 3 gm. of the protein above used or one hundred times the quantity sufficient to fill the demand for this secretion in the case of a myxedematous patient.

Since the isolation of iodothyrin by Baumann it has been believed that the thyroid function might be served by the use of this small fragment of the protein, but it is my belief that the thyroid function is not in all respects to be filled by this fragment. The physiologic as well as the most effective method of administering thyroid secretion to an animal is to give the same biologic sort of secretion by hypodermic injection. I have in many instances been unable to get the same quality of effect or to produce the same change in the metabolism of an animal by administering thyroid by mouth as could be obtained when giving it directly into the circulation. We do not know on what tissue or set of tissues the thyroid secretion acts. It does not seem to me probable that it is to be compared to the exclusive action of secretin, but rather that most of the tissues in the body are in some way affected by this substance, perhaps in part through the medium of the nervous system. We know that it is connected in some way with the function of oxidation in the body. By the administration of thyroid to a cretin or patient with myxedema it is possible to increase the absorption of oxygen from 20 to 75 per cent. There is a corresponding increase in the amount of heat give off from the body. The removal of the thyroid i could animal will cause diminution in the absorption t ensued, gen which may be again increased by thyroid . Administration of thyroid to a normal animal F. The an increase of from 10 to 40 per cent. in some diffi- no paralysis of demand. In comparing myxedema with C extremities were we find a very marked contrast in this be obtained only the former the absorption of oxygen, such as traction of ment, the energy exchange is often not more 30 p. m. on 50 per cent. of the normal, while in the latter toward these factors very much increased, occasionally to nearly double the normal. We are again confronted by our lack of knowledge when we find that these changes do not always follow thyroid administration.

On the same diet the nitrogen excretion is less when the animal is deprived of the thyroid and markedly increased when thyroid is again given. Such a result is probably merely secondary to the question of oxidation in the different tissues. We do not know why this increased oxidation and nitrogen loss follows administration of thyroid, but Schryver has found that the liver of animals that have been fed on thyroid show during the first twenty-four hours more rapid autolysis than controls. Wells has found that the addition of thyroid to the autolyzing liver has no effect in this respect, but such an experiment is not exactly comparable to Schryver's and does not controvert the accuracy of his results. It seems probable some change has been effected in the liver cell making it more susceptible to autolytic destruction. But a point of great interest is that if the animal is fed for some time on thyroid the rapid autolysis is not seen. A somewhat similar phenomenon is seen in some cases of thyroid feeding to obese persons. A small quantity of thyroid will in the beginning cause a comparatively rapid loss in weight from 10 to 30 pounds, but then a refractory period is reached when a large quantity will cause little or no changes. The character of the nitrogenous metabolism, that is, the distribution of various nitrogenous constituents in the urine, is not markedly different in cases of myxedema and Graves' disease, but I have recently observed instances in which toxic symptoms of somewhat varying type have been associated with high ammonia and high rest nitrogen fractions in the urine and in which complete symptomatic relief and normal nitrogen divisions in the urine followed the administration of thyroid. It is not possible to say that these individuals were suffering primarily from a lack of thyroid function since there was no other evidence than the facts which I have stated.

The nitrogen requirement to maintain equilibrium is increased by the addition of thyroid. It has been observed that the protein-sparing power of carbohydrate is less rapidly manifested in the metabolism experiments on animals being fed with thyroid. We may compare such experiments to conditions found in patients suffering from exophthalmic goiter. We find during certain of the acute phases of the disease that the nitrogen requirements are very high indeed. I have seen a patient in the toxic phases lose weight and show a marked nitrogen loss when she was receiving a diet so rich in carbohydrate that she had an alimentary glycosuria; and with a nitrogen intake of 22 gm. the nitrogen loss at the same time was 4.5 gm. It is not possible to feed such persons a sufficient quantity of any form of diet to entirely prevent nitrogen loss. Such patients may show an elevation of temperature, 1 to 1.5 degrees. They are usually very nervous, although physically weak, and it is evident that we are not dealing here with physiologic conditions in metabolism in which the usual processes for preventing nitrogen loss are available, but that the excessive quantity of thyroid secretion [illegible] altered the metabolic processes that we have a [illegible]truction corresponding to what takes place in [illegible] infections. Such a phase of the disease does [illegible]t long.

[illegible] function is in some way concerned with [illegible] metabolism. Repeated observations have [illegible] showing that the administration of thyroid [illegible]wers the assimilation or retention of carbohydrate more difficult. Certain facts in regard to this matter have been observed clinically. In severe Graves' disease an alimentary glycosuria is not rare and occasionally a severe and rapidly fatal diabetes develops after this disease when all the other symptoms have been relieved or have abated. In myxedema, on the contrary, the limits of assimilation for carbohydrate are much above those observed normally. In relation to this matter, I will mention an instance of severe fatal diabetes occurring in a woman of 53 after recovery from Graves' disease. In this case, the administration of thyroid to the patient caused a marked increase amounting to 90 per cent. in the quantity of sugar excreted as well as marked increase in the excretion of diacetic acid, oxybutyric acid and acetone. The patient at this time had no symptoms of Graves' disease. There was no reason to suppose that the diabetes was in any way concerned with the hyperfunction of the patient's own gland.

One can scarcely discuss this question without referring to the theories which have been advanced by Falta and his co-workers. The supposed interrelations between the thyroid, pancreas and adrenal, which they have worked out, are suggestive and possibly point to a future explanation of some of these matters. The experimental results which they have used thus far to substantiate their theory are only suggestive, and in my judgment they have proved nothing more than that further investigation along those lines is necessary.

The reaction on the pupil of the enucleated frog's eye has been used to show an antagonistic action between the adrenal and the thyroid. Such a reaction indicates that we may get some antagonistic action between these two glands, but although we must suspect that the thyroid is closely related with other glands in the body, and we may say that we know that such interrelations probably exist, the majority of these theories regarding these interrelations are based on pathologic and clinical observations and not on accurate experimentation.

Attempts have been made to demonstrate that the thyroid gland serves a particularly valuable function in combating infections in the body. The expressed juices of the thyroid have been allowed to act directly on bacteria with apparent bactericidal effect, but not in any respect more than was obtained from extracts of the liver and kidney. The quantity of the alexin in the blood has been found to be increased in those animals to which thyroid has been given, and it is a commonly observed fact that cretinous and myxedematous patients do not bear infections well, while on the other hand certain observers believe that every infection stimulates the thyroid to additional activity. It is certainly open to question whether a specific effect in infections is to be ascribed to the thyroid. It rather appears that the effect is a general one and it seems improbable that the thyroid function is one of the specific means by which the body protects itself from infectious diseases.

From the evidence which is now obtainable I think we must conclude that the thyroid gland furnishes a hormone which may be present in the blood within wide limits in the condition which we call health, and which stimulates a variety of tissues to a physiologic, and at times a pathologic, degree of activity.

Occupation in Treatment of Neurasthenia.—Healthy occupation of body and mind, says D. Ferrier in the *Practitioner*, never does any harm to the most pronounced neurasthenic, but the reverse. If work at first is hard, it becomes easier by degrees, and patients who find the régime a hard one should be told that it is better to be ill at work than ill in idleness. The misfortune is that so many neurasthenics have *neither* the determination nor the courage to submit to the necessary training of their morals, and thus go to swell the crowd of able-bodied valetudinarians.

REPORT OF A CASE OF EPIDEMIC ANTERIOR POLIOMYELITIS

DIAGNOSIS IN PREPARALYTIC STAGE BY LUMBAR PUNCTURE

LEWIS F. FRISSELL, A.M., M.D.
Associate in Medicine, Columbia University; Visiting Physician, Seton Hospital
NEW YORK

The patient, a young man of 21, was a member of the freshman class at Princeton, where he had been in attendance for five weeks before the onset of symptoms. At his home in Bernardsville, N. J., no cases of poliomyelitis were known to have occurred. At Princeton during the summer there had been several cases of the disease and in the college three cases, all in the freshman class, two of them fatal. The patients had all come from infected localities, though the disease did not appear until those attacked had been from two to five weeks in Princeton. The men did not know each other or room in the same dormitory, the only point of contact being in commons or recitation room. The patient had been under my care for a number of years. The only significant thing in his past history was pneumonia four years ago, and a rather run-down condition a year ago, at which time tuberculosis was suspected. He had had a slight cold the week before from which he had practically recovered. Three weeks before the onset of symptoms he had attended the funeral of one of the men who died of the disease. On October 29 he suffered from malaise, headache and chilly sensation, but felt well enough to take the train for Washington. On the next day, however, as the symptoms continued and became more severe, he returned to college and, as his bowels had not moved since the 29th, on the evening of the 30th he took a dose of salts and vomited immediately; the vomiting was repeated several times during the night, but there was no movement of the bowels. The following day, October 31, there was slight pain in the back of the neck and sense of fatigue in the gluteal region.

The patient was first seen by me on the evening of October 31, fifty-six hours after the onset of symptoms. At this time his temperature was 101 F., his pulse 90, respiration 22. The pharynx was slightly reddened, the tongue coated, eyes normal, heart and lungs normal. The abdomen was soft, a trifle distended and tympanitic; there was no enlargement of the spleen and no rose spots. The reflexes were exaggerated, patella, Achilles tendon, wrist and elbow. An ankle-clonus was obtained on both sides. Kernig's and Babinski's signs were not obtained. There were no paralyses or even muscle weakness. The neck seemed a trifle stiff, but only in a strained position when the patient sat upright in bed. In the dorsal decubitus the chin was readily brought forward to the chest. As a positive diagnosis was impossible, the patient was brought to New York where he was seen in consultation by Dr. T. C. Janeway, who concurred in the negative results of the previous examination. A blood-count and blood-culture were made the same evening. : red cells, 5,020,000; hemoglobin, 92 per cent; color index, 0.92; leukocytes, 12,000; small lymphocytes, 30.2 per cent.; large lymphocytes, 4.8; polymorphonuclear, 64.0; eosinophils, 0.2; basophils, 0.2; plasmodia of malaria, none. The Widal test was negative in dilution of 1 to 20. The urine was acid clear,; albumin, faint trace; sugar, none; indican, trace; specific gravity, 1,028. Microscopic examination showed few leukocytes. In view of the negative finding on physical examination, and in the blood and urine, it was resolved to wait for the result of the blood-culture, which might be expected to show *Bacillus typhosus*, were it present, and in the absence of this, if symptoms persisted, to introduce a needle into the spinal canal.

On November 1 the patient was more comfortable, though there was some pain in the lumbar region. High temperature persisted. The bowels, which had not moved since the 29th, were finally moved by calomel salts and rectal irritation. The results were foul-smelling.

On November 2 fever persisted. The second blood examination shows a slight fall in polymorphonuclear cells and increase in the small lymphocytes. Polymorphonuclears were 59 per cent, lymphocytes 34 per cent. The physical examination was still negative, but all the reflexes were less active and the ankle-clonus had disappeared. Rigidity of the neck as before. The diagnosis at this point was still obscure. The patient might have typhoid fever, gastro-intestinal toxemia, one of the more slowly developing cases of meningitis, or poliomyelitis. As the blood culture was reported sterile, lumbar puncture was performed. There was a rapid drop flow and 10 c.c. of fluid obtained. The fluid was practically clear; only a slight shimmering appearance was noticed on shaking the tube. Dr. Simon Flexner, of the Rockefeller Institute, who kindly offered to examine the fluid, reported as follows:

"The first specimen, received on November 3, consisted of a limpid fluid, almost but not quite clear, and yet not turbid, showing on agitation a faint opalescence. On centrifugalization, the fluid yielded sediment containing a considerable number of small and a small number of large lymphocytes, and a very few polynuclear leukocytes. There were no red blood-corpuscles present. The perfectly clear supernatant fluid gave a marked protein reaction with Noguchi's butyric acid test. The specimen, therefore, contained excess of white corpuscles, chiefly lymphocytes, and of protein. The condition of the fluid resembled that seen in monkeys inoculated with the virus of epidemic poliomyelitis, just before the onset of paralysis."

As a result we felt that as tuberculous meningitis could be fairly excluded, a diagnosis of anterior poliomyelitis could be reasonably made; furthermore, that paralysis, if it ensued, would come shortly.

November 3, 9 a. m., temperature was still 101 F. The patient complained of muscular weakness and had some difficulty in turning in bed. There was, however, no paralysis of any muscle group. The reflexes of the upper extremities were still obtained, but the patella reflexes could be obtained only when the patient made a voluntary effort such as traction of the hands. No urine had been passed since 6:30 p. m. on November 2, but there was no evidence of enlargement upward of the bladder. The bowels had been moved with difficulty. At 2 p. m., inability to urinate continued. The bladder by

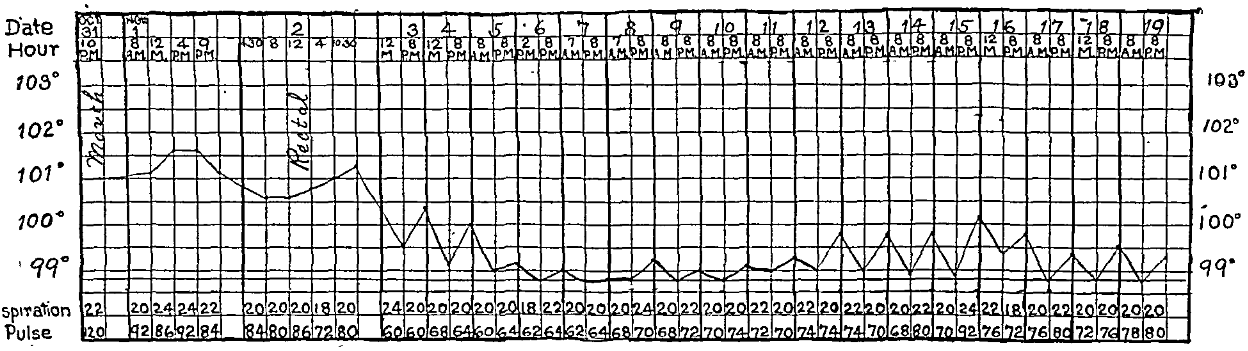


Chart of case of poliomyelitis.

percussion extended 2 inches above the symphysis pubis. On catheterization there was no free flow of urine and pressure over the abdomen was required. There was some general weakness in the legs and a sense of weight in the right leg on flexion. At 6 p. m. a complete examination of the muscular system was made which showed paralysis of the left hamstrings, weakness of the quadratus lumborum and the lower belly of the right rectus, and slight weakness of the erector spini group. There was a sense of weight in the right thigh when the leg was lifted in extended position. The calf peronei, extensors of feet, abductors and rotators of thigh were normal; muscles of head, face, eyes, shoulder-girdle and arms normal. The wrist, elbow, biceps and Achilles reflexes were present; knee-jerks lost on both sides. Paralysis thus appeared at the end of the fifth day of the disease, and the muscle groups affected showed the presence of disease of lumbar enlargement of the cord with fairly general distribution. With the appearance of paralytic symptoms the temperature fell, gradually reaching normal on November 6.

On November 4, lumbar puncture was again performed and 10 c.c. of fluid obtained by a rapid drop flow. The leukocytes showed a slight increase; the polymorphonuclears dropped to 63.5 per cent., the lymphocytes to 27.5 per cent. Dr. Flexner's report justified the belief that the height of the irritative stage had passed. It was as follows:

"The opalescence is less, so that the fluid is, to all intents, 'clear.' The sediment obtained by centrifugalization showed still an excess of lymphocytes, but the supernatant fluid showed a diminished reaction for protein. This second fluid resembled that of monkeys after the paralysis had set in."

On the following day weakness of the extensors of the left foot and the anterior tibial group was first noted.

Pain in the back and muscles of the thigh was becoming very troublesome and was relieved only by baths of a temperature from 105 F. to 110 F. This symptom persisted until December 10 with varying intensity.

On November 7 the patella tendon reflexes were again obtained.

November 9, Kernig's sign was obtained, but no Babinski. This symptom was thought to be due to the shortening of the posterior thigh muscles. Paralysis of the hamstring muscles was of varying intensity. As early as November 7 the legs could be flexed on the thigh, but with difficulty in the ventral decubitus. The bladder paralysis lasted for twelve days, and the bowels were moved only with great difficulty for a month.

On November 27, after the temperature had been normal for ten days, the electric reactions were tested by Dr. J. *Ramsay Hunt.*

Reaction of degeneration was nowhere present. All muscles responded to faradism, but the left hamstring and left anterior tibial, extensors of the foot and peronei were most sluggish in response, though all the muscles of both legs and thighs were affected. The reflexes of the lower extremities had again become exaggerated and a patella-clonus was obtained.

Within a month the patient was up, and in six weeks walking, though at the time of writing there is a slight drop-foot on the right side which requires correction by orthopedic apparatus in order to prevent contraction of the stronger calf muscle. The prognosis is good for a practically perfect functional result.

As to treatment, from the start a nasal spray of a weak hydrogen peroxid solution was used, on the theory that the unknown organisms might be eliminated through the nose and reinfection thus produced. In infected monkeys Flexner has proved the infectiousness of the nasal mucous membrane. Counter-irritation to the spine by cupping and mustard was also applied early. Hexamethylenamin (urotropin) was administered in the hope that formaldehyd might be set free in the spinal cord. For the pain nothing proved so efficient as the hot tub bath, which also enabled the patient to move with ease his weakened muscle groups.

To summarize, one is impressed with the difficulty of diagnosis of this disease in its acute stage, in which it may resemble any of the infections, especially typhoid fever, influenza or intestinal toxemia. The very slight rigidity of the neck and the increase in the activity of the reflexes, which at that time we thought might be due to a hypersensitive nervous system, were suggestive, but only the presence of an epidemic put us on our guard as to the possibility of the correct diagnosis.

The exaggeration of the reflexes, gradually diminishing, and disappearing at the time of paralysis, only to become again exaggerated later, is another point in evidence of the general nature of the disease which cannot be exclusively confined to the anterior horn cells.

The inestimable value of lumbar puncture cannot be too strongly insisted on. By its means a diagnosis was established, and the fact that paralysis would probably follow determined twenty-four hours before its onset. Finally, by a second puncture twenty-four hours after the onset of the paralysis, the fact was determined that the height of the paralysis had passed and that the paralytic stage was nearing an end. As a matter of fact, within eighteen hours we had the last evidence of progression in the lesion. The puncture had, in this case, both prognostic and diagnostic value. In view of the number of normal lumbar punctures reported, it is fair to say that Dr. Flexner reports that the increase in lymphocytes and increased protein reaction are present in the spinal fluid of his experimental monkeys for a period of only a few days and incidentally that this is the first case in which he has followed the corresponding reactions in man.

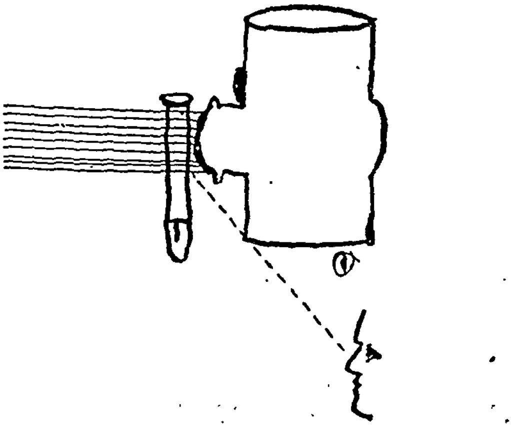
In conclusion, I wish to thank Dr. Flexner for his courtesy in examining the spinal fluid and for his many suggestions and keen practical interest in the case.

113 East Fifty-Sixth Street.

A SIMPLE METHOD FOR THE DETECTION OF MINUTE QUANTITIES OF ALBUMIN IN URINE

M. B. KATZENSTEIN, B.Sc., M.D., M.Sc.
PITTSBURG

On account of the difficulty experienced in detecting the presence of minute quantities of albumin in urine, I have been constantly on the lookout for a satisfactory method. I have found a solution of the difficulty, and the method applies both to contact and to the heat and acid tests. The method is a very simple one and consists in passing rays of light through the fluid and looking at it at right angles to the rays, the principle being the same as that of seeing particles of dust in a ray of sunshine. For light I use the original bull's-eye lantern



Method for the detection of minute quantities of albumin in urine.

used by nose and throat men for their reflected light. The detection of albumin is most satisfactorily done in connection with the heat and acid method. After heating and adding acid to the specimen the test-tube containing the fluid is held directly in front of the bull's-eye lantern and the specimen viewed from a point at right angles to the rays of light. In specimens in which I and others have failed to detect any cloudiness in all other lights, the cloudiness has stood out plainly when submitted to the above procedure. The urine should always be filtered, especially for the contact test. Any bull's-eye lantern will suffice. The great advantage of this method lies in the fact that it can be done at any time—night or day.

ABORTIVE CASES OF POLIOMYELITIS

AN EXPERIMENTAL DEMONSTRATION OF SPECIFIC IMMUNE BODIES IN THEIR BLOOD-SERUM *

JOHN F. ANDERSON, M.D.
Director Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service

AND

WADE H. FROST, M.D.
Passed Assistant Surgeon, U. S. Public Health and Marine-Hospital Service

WASHINGTON, D. C.

It has been pretty generally recognized, since the publication of Wickman's studies on epidemic acute anterior poliomyelitis in Sweden in 1905-06,[1] that cases of this disease may run their course without resultant paralysis. The evidence on which the occurrence of such so-called "abortive" cases is predicated is, briefly, the following:

Especially in epidemics, cases of acute anterior poliomyelitis are encountered showing all gradations in the degree and extent of paralysis. In the same group may be found cases resulting in extensive and lasting paralysis; cases with permanent paralysis of slight extent; cases in which the patients have transient paralysis, recovering completely within a few weeks or even a few days; other cases in which there is no definite paralysis, but merely muscular weakness, of short duration; still others in which the only motor disturbance is ataxia, tremor or a transient ocular disturbance such as diplopia or nystagmus. Finally, within the same group are seen cases of illness exhibiting only the symptoms of a general infection, usually accompanied by symptoms indicative of meningeal, spinal or encephalitic irritation, but without definite motor disturbances.

The diagnosis of acute anterior poliomyelitis in these cases is suggested usually by their close association with typical cases of the disease rather than by the distinctiveness of their symptoms. The symptoms are, however, sufficiently similar to the pre-paralytic symptoms observed in paralytic cases, and in many instances sufficiently different from the symptoms observed in the more common infectious diseases to justify a provisional diagnosis of poliomyelitis. The similarity of these abortive cases to cases of frank poliomyelitis in the early stage, the signs of involvement of the nervous system, their close and constant association with frank paralytic cases, and the gradation of symptoms above mentioned had convinced many observers of the etiologic identity of abortive and paralytic cases of poliomyelitis even before any light had been thrown on the subject by the study of experimental poliomyelitis.

It has recently been noted by several observers that monkeys inoculated with the virus of poliomyelitis occasionally pass through an indefinite illness without resultant paralysis, clinically similar to abortive attacks as observed in man.

It has been shown by Levaditi and Landsteiner,[2] Römer and Joseph[3] and Flexner and Lewis[4] that the serum of monkeys which have recovered from poliomyelitis, mixed in suitable proportions with an emulsion of the virus and allowed to remain in contact for a sufficient length of time, renders the virus inactive, so that when injected into fresh monkeys it fails to produce the disease.

Netter and Levaditi,[5] and Flexner and Lewis,[4] have demonstrated the same property in the serum of human beings who have recovered from acute poliomyelitis. This property has been found by all the above observers to be absent from the serum of normal persons and monkeys, and has therefore been considered a specific property, the demonstration of which in the serum justifies the inference that the subject has passed through the infection of acute anterior poliomyelitis.

Netter and Levaditi,[6] availing themselves of this test, have also demonstrated this germicidal property against the virus of poliomyelitis in the serum of a suspected abortive case, thereby giving additional confirmation of the etiologic identity of such cases with frank poliomyelitis.

The clinical history of the abortive case tested by Netter and Levaditi is as follows (translation from the French):

> "CASE 3.—Henriette G., sister of Emile (see below), was with a nurse in L'Aveyron, returning in good health Dec. 15, 1909. Three weeks after her return the child fell off, lost appetite, became cross, showed less disposition to run about, complained of pain behind the knees when the legs were touched, and of the arms when they were pulled. These symptoms, which attracted the attention of Dr. Ergbischoff, caused no uneasiness to the rather heedless parents, who refused to show us the child on February 7. The mother thought the child was suffering from *mal du pays.* Whatever the trouble, it all disappeared in the course of three weeks. The child regained her normal appearance and showed every appearance of health the latter part of March."

A brother, Emile, 6 years old was taken ill either a few days before or a few days after this child (the dates given are not clear as to the sequence of cases) with a typical attack of acute anterior poliomyelitis, resulting in lasting paralysis of a leg and an arm.

The experiments which we here report are similar to the above experiment of Netter and Levaditi, undertaken on a more extensive scale, designed to throw some light on the diagnosis and epidemiologic significance of a class of cases encountered by one of us,[7] in a field study of acute anterior poliomyelitis at Mason City, Iowa, and other points in that state during the summer of 1910.

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*From the Hygienic Laboratory.

[1] Wickman, Ivar: Beiträge zur Kenntniss der Heine-Medinschen Krankheit (Poliomyelitis acuta und verwandte Erkrankungen), Berlin, 1907, S. Karger.

[2] Levaditi, C., and Landsteiner, K.: Compt.-rend. Soc. de biol., 1910, lxviii, 311.

[3] Römer, P., and Joseph, K. München med. Wchnschr, 1910, lvii, 568.

[4] Flexner, S., and Lewis, Paul A.: Experimental Poliomyelitis in Monkeys, THE JOURNAL A. M. A., May 28, 1910, p. 1780.

[5] Netter, A., and Levaditi, C.: Comp.-rend. Soc. de biol., 1910, lxviii, 617.

[6] Netter, A., and Levaditi, C.: Compt.-rend. Soc. biol., 1910, lxviii, 855.

[7] Frost, W. H.: The Field Investigation of Epidemic Poliomyelitis (What the Health Officer Can Do Toward Solving a National Problem), Pub. Health Rep., Nov. 18, 1910, p. 1663; Discussion of the Epidemic of Anterior Poliomyelitis at a Meeting of the Iowa State Board of Health, Iowa Med. Jour., Nov. 15, 1910, p. 236.

In Mason City, Iowa, a town of about 14,000 inhabitants, there occurred from April to September, 1910, forty cases of undoubted acute anterior poliomyelitis, resulting in typical flaccid atrophic paralysis. At the same time there occurred a considerable number of cases of illness with symptoms suggestive of the early symptoms of acute poliomyelitis, but not resulting in paralysis, and often of such mild character as not to come under the observation of any physician.

REPORTS OF CASES

Blood-specimens were obtained in the latter part of November from a number of these cases, whose clinical histories are given in abstract below. For the histories in several of these cases we are indebted to various physicians of Mason City. Other patients were not seen by any physician during their illness and the only histories available were such as could be given several weeks later by the patients and their families.

CASE 1.—*Control.*—Reported by Dr. C. M. Swale, Mason City. C. T., male, aged 48, laborer, was taken sick June 24 with a chill, fever, pains in the legs and back, stiffness of neck, some delirium. On the third day there was paralysis of both thighs and legs and both upper arms, and partial paralysis of the forearms. When last seen, Nov. 24, 1910, the lower limbs and upper arms were still paralyzed, flaccid and atrophic, but showing some improvement. This is a typical case of acute anterior poliomyelitis, included in our series as a control.

TABLE 1.—INOCULATIONS IN SERIES 1 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
16	Case 1 (control) ..	Frank poliomyelitis	Adult.	Has remained well.
17	Case 2	Suspected poliomyelitis with spastic paralysis.	Adult.	Has remained well.
18	Case 3	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
19	Case 4	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
20	Case 5	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
21	Case 6	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
25	Case 7 †	Suspected poliomyelitis without paralysis (abortive).	16	Paralysis all extremities on sixth day.
26	Case 8 †	Suspected poliomyelitis without paralysis (abortive).	Child.	Paralysis all extremities, trunk and neck.
22	Case 9	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
23	Case 10	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
24	Case 11 †	Suspected poliomyelitis without paralysis (abortive).	.....	Paralysis all extremities on eighth day.
27	Control JR	Normal....................	Adult.	Paralysis of hind legs tenth day, all extremities twelfth day; chloroformed.
27A	Control JR	Normal....................	Adult.	Paralysis of all extremities tenth day.

* Each monkey inoculated intracerebrally Nov. 30, 1910, with 0.5 c.c. of a mixture of 5 per cent. emulsion of fresh spinal cord (of Monkey 15) 0.5 c.c.; serum to be tested, 0.5 c.c.; fresh normal serum, 0.1 c.c. Mixtures allowed to stand one hour at 37 C. and twenty hours at 15 C. before injection. ‡ Refers to same serum in Series 2.

CASE 2.—Reported by Dr. B. F. Weston, Mason City. Mrs. W., 22, waitress, was taken sick the latter part of June, 1910, with fever and indefinite general symptoms. After several days she became paralyzed in both lower limbs. She was admitted to a hospital about one week after onset. She was said to have had, at that time, a flaccid motor paralysis of both lower extremities which, however, became spastic within a few days. When the patient was seen the latter part of July, 1910, both legs and thighs were quite spastic. No active motion was possible except of the toes and slight flexion of the left knee. Passive motion was limited to partial flexion of the thighs and slight flexion of left knee—almost none of the right knee. The patellar reflexes greatly exaggerated on both sides; ankle-clonus on right side; sensation for touch and pain was normal. Examination was otherwise negative. The patient's general health was good.

Nov. 25, 1910, the left leg could be moved, but rather awkwardly. The right leg showed little, if any, improvement. Patellar reflexes were still exaggerated, more so on the right side. There was no ankle-clonus and no atrophy.

The spasticity of the paralyzed limbs, exaggeration of reflexes and absence of atrophy in this case indicated a lesion in the upper motor segment, either in the motor cortex of the brain or in the pyramidal tracts of the cord. The case was included in our series in order to ascertain the diagnosis, since it represents a rare clinical type of poliomyelitis, the diagnosis of which has always been uncertain, and whose occurrence has been a matter of some dispute.

CASE 3.—Reported by Dr. C. E. Dakin, Mason City. H. G., a woman aged 23, nurse, was taken sick suddenly June 24, after a long walk in the hot sun, with violent occipital headache, vertigo and stiffness of the neck, causing some retraction of the head. She had chilly sensations, vomited, was extremely prostrated, and felt "crazy." Temperature was normal, pulse 80. The next day she had pains in the legs and back, with tenderness along the spine, and was very restless. There was no further vomiting; the patient was constipated. The third day she complained of cramps and a sensation of numbness in the left leg, and found, on attempting to get out of bed, that this leg was weak. These symptoms gradually improved, so that in a week the patient was able to be up with no sign of paralysis. The spine, however, remained tender for several days and sensitive to jarring. A week later she had a slight recurrence of similar symptoms, with a pharyngitis.

There was *no* elevation of the temperature at any time in this case, which was seen daily by the attending physician. The patient knew of no direct association with cases of poliomyelitis, within a month prior to her illness. She was, however, at the time of her illness living at the house of a physician who had recently attended patients who were suffering from this disease.

CASE 4.—Dr. C. E. Dakin, of Mason City, gives the following account of his own illness, the nature of which was hardly suspected at the time. He was taken sick about July 1, 1910, the onset being gradual. He lost appetite, was constipated, had a coated tongue and foul breath. He suffered from a persistent occipital headache, not relieved by treatment, and from severe pains in the upper dorsal and lumbar region. The neck was stiff, so that it was painful to bend the head forward although it could be rotated without pain. No retraction of the head was noted, but it was found that the most comfortable posture was lying on the back with the head extended over a pillow placed under the shoulders. He felt extremely nervous, irritable and inclined to worry over trifles. There was no elevation of temperature. These symptoms, which reached their height about July 7, gradually subsided within the next week, except the general nervousness and irritability, which persisted a good deal longer. During this time Dr. Dakin was not confined to bed, and continued his practice.

A child of his family had an attack of acute poliomyelitis with slight peroneal paralysis in May. Also about June 23 Dr. Dakin attended a child suffering from what was clearly an abortive attack of acute poliomyelitis.

CASE 5.—The patient, Mr. S., aged 30, merchant, in Mason City, was not seen by a physician. The history was obtained some two months later from the patient and his family. He was taken sick rather suddenly about June 19, with headache, pain in neck, back and legs. The temperature was not determined. The patient felt ill for a week or more, but was not confined to bed; thought he had the influenza. For more than a week after recovery one leg remained weak and "rheumatic." No previous association with any case of poliomyelitis was known. About three weeks later a 3-year-old son (the only child of the family) developed a typical case of poliomyelitis, resulting in paralysis of the left thigh and leg.

CASE 6.—Reported by Dr. C. E. Dakin, Mason City, who first saw the patient October 25. E. D., 45, farmer, residing about 7 miles northwest of Mason City, about Oct. 16, 1910, began to feel fleeting, neuritic pains in various parts of his body. There was no special pain, tenderness or stiffness of neck or back. A chronic indigestion became much aggravated, causing gastric distress, especially after eating. The patient lost appetite, and was constipated; the tongue was coated and breath foul. He was unusually nervous, irritable and sleepless. He improved gradually, returning to his usual state of health within two or three weeks.

TABLE 2.—INOCULATIONS IN SERIES 2 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
30	Control JFA ‡	Normal	Adult.	Has remained well to date.
31	Control CHL	Normal	Adult.	Paralysis and death fifth day.
32	Control WHF	Normal	Adult.	Paralysis, forelegs and neck, thirteenth day.
33	Control W ‡	Normal	Child.	Very doubtful, slight illness; sixth to twelfth day loss of appetite, nervousness, excitability, slight irregular rise of temperature.
34	Control R ‡	Normal	Child.	Very doubtful, slight illness; sixth to twelfth day; symptoms as above but less marked.
35	Case 11 †	Suspected abortive case	Child.	Has remained well to date.
36	Case 7 †	Suspected abortive case	16	Paralysis of all extremities ninth day; died ninth day.
37	Case 8 †	Suspected abortive case	Child.	Has remained well to date.

* Conditions of experiment the same as in Series 1, except that virus used was a *1 per cent.* emulsion of fresh cord (of Monkey 29). Inoculations Dec. 24, 1910. † Refers to same serum in Series 1. ‡ Refers to same serum in Series 3.

TABLE 3.—INOCULATIONS IN SERIES 3 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
38	JFA (see monkey 30) ‡	Normal	Adult.	Paralysis of all extremities thirteenth day; chloroformed.
39	R (see monkey 34) ‡	Normal	Child.	Paralysis of all extremities tenth day; chloroformed.
40	W (see monkey 35) ‡	Normal	Child.	Paralysis of neck and forelegs tenth day; chloroformed

* Conditions of experiment the same as in Series 1, using a *5 per cent.* emulsion of fresh spinal cord (of Monkey 9). Inoculations Jan. 12, 1911. This series is a control on Series 1. † Refers to same serum in Series 2.

A boy living in the same house was taken sick with acute poliomyelitis Oct. 10, 1910, and died October 16. The other two members of the household remained well at this time; but, as stated in connection with Case 7, both had suffered somewhat, similar attacks about August 1.

CASE 7.—P. G., a girl aged 16, living about seven miles northwest of Mason City, was taken sick July 11 with headache, slight backache, pains in the knees, nausea and vomiting; diarrhea; fever doubtful. There was no stiffness of neck. The patient was in bed part of one day. Felt ill and unusually weak for several days thereafter.

There was no known contact with any case of poliomyelitis prior to onset. There had, however, been a considerable gathering of neighbors at this house one week prior, and the patient and other members of the family went back and forth to Mason City, where poliomyelitis prevailed at that time.

This was the first of a group of generally similar cases occurring in this and neighboring families. Other cases of similar illness occurred in this same family as follows: sister, aged 6, July 14; two sisters aged 7 and 8 respectively, July 15 or 16; brother, aged 10 (Case 8), July 22; father, aged 49 (Case 9), August 3. Two other members of the family, one adult and one aged 13, remained well.

It was stated that cases of similar illness had occurred about the same time in several neighboring families, all of which had been associated more or less closely with these cases, viz.:

Family B.—One case, adult, July 29.

Family W.—Five cases, about August 1.

Family D.—Two cases about the same time. This is the family of Patient 6. The two who were sick at this time remained well during the subsequent illness of the other members of the household.

Family M.—One case, date not known.

Family E. B.—One case, some time after August 15.

Family C. B.—Two cases (one of them Case 10), July 31.

CASE 8.—R. G., brother of Patient 7, aged 10, was ill with sudden onset about July 22; had fever, sore throat, headache, pains in neck, back and limbs; was at first restless, then drowsy. After staying in bed one day he felt better and got up, but still had pain in the back. He fell down several times this day, apparently because of weakness of the legs. The third day he felt well, except for weakness, which gradually disappeared.

CASE 9.—W. G., father of Patients 7 and 8, aged 49, farmer, first noted, August 3, while driving his wagon, that the jolting caused him pain all over. Later in the same day he had a headache, chilly sensations and fever. The pain continued all day, chiefly in the back, neck and shoulders. The patient was constipated and had no appetite. The second day his ankles felt stiff and sore, and he felt extremely weak and uncertain on his legs. After the second day he felt much better, except for the weakness, which gradually improved, leaving him in his usual health.

CASE 10.—Reported by Dr. C. E. Dakin, Mason City. C. B., aged 48, carpenter, about July 31 began to have an occipital headache, was constipated, had no appetite; felt very weak, tired and faint. He was troubled at times with vertigo, brought on by sudden turning of the head. The cervical and dorsal spine was tender. The headache and vertigo were worse when in the sunlight. There was some photophobia. The pupils were contracted and reacted sluggishly to light. Reflexes otherwise normal. These symptoms continued for about a week and for a much longer time the patient suffered from indigestion and continued to feel weak and easily tired.

The wife of this patient was taken sick about the same time with practically identical symptoms. These two had been between July 14 and 31, to a house where a child was sick at the time with a pretty definite abortive attack of poliomyelitis. One of them had also been to a house where two sisters of Patients 7 and 8 had visited while sick. A *member of the* household of Patients 7, 8 and 9 was said to be a frequent visitor at the house of Mr. B. He and his wife are the family "C. B." mentioned under Case 7.

CASE 11.—Reported by Dr. Fred Albert, Mason City. J. A., male, aged 7, residing on a farm about 5 miles northeast of Mason City, was taken sick suddenly June 30 or July 1, 1910. When seen by Dr. Albert, July 2, he had a temperature of 102.5

In Mason City, Iowa, a town of about 14,000 inhabitants, there occurred from April to September, 1910, forty cases of undoubted acute anterior poliomyelitis, resulting in typical flaccid atrophic paralysis. At the same time there occurred a considerable number of cases of illness with symptoms suggestive of the early symptoms of acute poliomyelitis, but not resulting in paralysis, and often of such mild character as not to come under the observation of any physician.

REPORTS OF CASES

Blood-specimens were obtained in the latter part of November from a number of these cases, whose clinical histories are given in abstract below. For the histories in several of these cases we are indebted to various physicians of Mason City. Other patients were not seen by any physician during their illness and the only histories available were such as could be given several weeks later by the patients and their families.

CASE 1.—*Control.*—Reported by Dr. C. M. Swale, Mason City. C. T., male, aged 48, laborer, was taken sick June 24 with a chill, fever, pains in the legs and back, stiffness of neck, some delirium. On the third day there was paralysis of both thighs and legs and both upper arms, and partial paralysis of the forearms. When last seen, Nov. 24, 1910, the lower limbs and upper arms were still paralyzed, flaccid and atrophic, but showing some improvement. This is a typical case of acute anterior poliomyelitis, included in our series as a control.

TABLE 1.—INOCULATIONS IN SERIES 1 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
16	Case 1 (control)....	Frank poliomyelitis	Adult.	Has remained well.
17	Case 2	Suspected poliomyelitis with spastic paralysis.	Adult.	Has remained well.
18	Case 3	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
19	Case 4	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
20	Case 5	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
21	Case 6	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
25	Case 7 †	Suspected poliomyelitis without paralysis (abortive).	16	Paralysis all extremities on sixth day.
26	Case 8 †	Suspected poliomyelitis without paralysis (abortive).	Child.	Paralysis all extremities, trunk and neck.
22	Case 9	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
23	Case 10	Suspected poliomyelitis without paralysis (abortive).	Adult.	Has remained well.
24	Case 11 †	Suspected poliomyelitis without paralysis (abortive).	.....	Paralysis all extremities on eighth day.
27	Control JR	Normal....................	Adult.	Paralysis of hind legs tenth day, all extremities twelfth day; chloroformed.
27A	Control JR	Normal....................	Adult.	Paralysis of all extremities tenth day.

* *Each monkey inoculated intracerebrally Nov. 30, 1910, with* 0.5 c.c. of a mixture of 5 per cent. emulsion of fresh spinal cord (of Monkey 15) 0.5 c.c.; serum to be tested, 0.5 c.c.; fresh normal serum, 0.1 c.c. Mixtures allowed to stand one hour at 37 C. and twenty hours at 15 C. before injection. † *Refers to same serum in Series 2.*

CASE 2.—Reported by Dr. B. F. Weston, Mason City. Mrs. W., 22, waitress, was taken sick the latter part of June, 1910, with fever and indefinite general symptoms. After several days she became paralyzed in both lower limbs. She was admitted to a hospital about one week after onset. She was said to have had, at that time, a flaccid motor paralysis of both lower extremities which, however, became spastic within a few days. When the patient was seen the latter part of July, 1910, both legs and thighs were quite spastic. No active motion was possible except of the toes and slight flexion of the left knee. Passive motion was limited to partial flexion of the thighs and slight flexion of left knee—almost none of the right knee. The patellar reflexes greatly exaggerated on both sides; ankle-clonus on right side; sensation for touch and pain was normal. Examination was otherwise negative. The patient's general health was good.

Nov. 25, 1910, the left leg could be moved, but rather awkwardly. The right leg showed little, if any, improvement. Patellar reflexes were still exaggerated, more so on the right side. There was no ankle-clonus and no *atrophy*.

The spasticity of the paralyzed limbs, exaggeration of reflexes and absence of atrophy in this case indicated a lesion in the upper motor segment, either in the motor cortex of the brain or in the pyramidal tracts of the cord. The case was included in our series in order to ascertain the diagnosis, since it represents a rare clinical type of poliomyelitis, the diagnosis of which has always been uncertain, and whose occurrence has been a matter of some dispute.

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A child of his family had an attack of acute poliomyelitis with slight peroneal paralysis in May. Also about June 23 Dr. Dakin attended a child suffering from what was clearly an abortive attack of acute poliomyelitis.

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TABLE 2.—INOCULATIONS IN SERIES 2 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
30	Control JFA ‡	Normal....................	Adult.	Has remained well to date.
31	Control CHL	Normal....................	Adult.	Paralysis and death fifth day.
32	Control WHF	Normal....................	Adult.	Paralysis, forelegs and neck, thirteenth day.
33	Control W ‡	Normal....................	Child.	Very doubtful, slight illness; sixth to twelfth day loss of appetite, nervousness, excitability, slight irregular rise of temperature.
34	Control R ‡	Normal....................	Child.	Very doubtful, slight illness; sixth to twelfth day; symptoms as above but less marked.
35	Case 11 †	Suspected abortive case.....	Child.	Has remained well to date.
36	Case 7 †	Suspected abortive case.....	16	Paralysis of all extremities ninth day; died ninth day.
37	Case 8 †	Suspected abortive case.....	Child.	Has remained well to date.

* Conditions of experiment the same as in Series 1, except that virus used was a *1 per cent.* emulsion of fresh cord (of Monkey 29). Inoculations Dec. 24, 1910. † Refers to same serum in Series 1. ‡ Refers to same serum in Series 3.

TABLE 3.—INOCULATIONS IN SERIES 3 *

Monkey No.	Serum from	Description of Case	Age	Result in Monkeys
38	JFA (see monkey 30) ‡	Normal....................	Adult.	Paralysis of all extremities thirteenth day; chloroformed.
39	R (see monkey 34) ‡	Normal....................	Child.	Paralysis of all extremities tenth day; chloroformed.
40	W (see monkey 35) ‡	Normal....................	Child.	Paralysis of neck and forelegs tenth day; chloroformed

* Conditions of experiment the same as in Series 1, using a *5 per cent.* emulsion of fresh spinal cord (of Monkey 9). Inoculations Jan. 12, 1911. This series is a control on Series 1. † Refers to same serum in Series 2.

A boy living in the same house was taken sick with acute poliomyelitis Oct. 10, 1910, and died October 16. The other two members of the household remained well at this time; but, as stated in connection with Case 7, both had suffered somewhat similar attacks about August 1.

Case 7.—P. G., a girl aged 16, living about seven miles northwest of Mason City, was taken sick July 11 with headache, slight backache, pains in the knees, nausea and vomiting; diarrhea; fever doubtful. There was no stiffness of neck. The patient was in bed part of one day. Felt ill and unusually weak for several days thereafter.

There was no known contact with any case of poliomyelitis prior to onset. There had, however, been a considerable gathering of neighbors at this house one week prior, and the patient and other members of the family went back and forth to Mason City, where poliomyelitis prevailed at that time.

This was the first of a group of generally similar cases occurring in this and neighboring families. Other cases of similar illness occurred in this same family as follows: sister, aged 6, July 14; two sisters aged 7 and 8 respectively, July 15 or 16; brother, aged 10 (Case 8), July 22; father, aged 49 (Case 9), August 3. Two other members of the family, one adult and one aged 13, remained well.

It was stated that cases of similar illness had occurred about the same time in several neighboring families, all of which had been associated more or less closely with these cases, viz.:

Family B.—One case, adult, July 29.

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Family D.—Two cases about the same time. This is the family of Patient 6. The two who were sick at this time remained well during the subsequent illness of the other members of the household.

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Family E. B.—One case, some time after August 15.

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The wife of this patient was taken sick about the same time with practically identical symptoms. These two had been between July 14 and 31, to a house where a child was sick at the time with a pretty definite abortive attack of poliomyelitis. One of them had also been to a house where two sisters of Patients 7 and 8 had visited while sick. A member of the household of Patients 7, 8 and 9 was said to be a frequent visitor at the house of Mr. B. He and his wife are the family "C. B." mentioned under Case 7.

Case 11.—Reported by Dr. Fred Albert, Mason City. J. A., male, aged 7, residing on a farm about 5 miles northeast of Mason City, was taken sick suddenly June 30 or July 1, 1910. When seen by Dr. Albert, July 2, he had a temperature of 102.5

F., had a severe occipital headache, pain and tenderness of the spine, and some inflammation of the tonsils. The next day the temperature was normal and the headache and pain and tenderness of the spine had disappeared.

Two other children in the same house were taken sick between June 29 and July 1 with similar symptoms. One recovered within a few days, while the other developed typical poliomyelitic paralysis of the arms.

Cases 3 to 11 inclusive are representative of a class of cases which were reported to be quite common in and around Mason City during the epidemic of poliomyelitis. While there is a considerable variety in their symptomatology there is, in most cases, a fairly distinct syndrome, viz., headache, more commonly occipital; pain and tenderness along the spine; neuritic pains and hyperesthesia of the limbs; a marked degree of restlessness or irritability; prostration out of proportion to the severity of the other symptoms; some gastro-intestinal derangement (anorexia, nausea, constipation or diarrhea); occasionally other symptoms of nervous derangement, as vertigo, photophobia, delirium, muscular paresis, disordered reflexes. The temperature was definitely determined to be normal in Cases 3, 4 and 10, and found elevated (102.5° F.) in Case 11. In the rest of the cases no exact information is available, as the patients were not under the observation of a physician during the acute stage. Dr. Dakin,[8] of Mason City, who has reported elsewhere 36 cases of poliomyelitis, including Cases 3 and 10 of the above series, describes, as very characteristic, a staring, terror-stricken facial expression, which he noted also in Cases 3, 6 and 10 of our series.

Blood-specimens were obtained from all these cases by venepuncture during the latter part of November. The serum was withdrawn after coagulation and kept in closely stoppered sterile bottles. Repeated tests showed all specimens of serum to be sterile when used.

The virus used was originally obtained from the Rockefeller Institute for Medical Research through the courtesy of the director, Dr. Simon Flexner. It had been propagated through a long series of monkeys at the Rockefeller Institute and found very uniformly virulent. We have found it virulent for all the fresh monkeys which we have inoculated other than those mentioned in the following series.

SERIES 1.—Monkey 15, inoculated with the above virus, developed complete paralysis of the hind legs on the seventh day; it was chloroformed and necropsy performed the same day. A 5 per cent. emulsion of the fresh spinal cord was prepared in normal salt solution, and filtered through paper to remove gross particles. One-half cubic centimeter of this emulsion was added to an equal amount (0.5 c.c.) of each of the serums to be tested.

To each mixture was added 0.1 c.c. of fresh normal human serum (J. R.). As controls, two mixtures were made with normal human serum (J. R.). The mixtures of serum and virus were kept 1 hour at 37 C., then placed over night (about 20 hours) at 15 C. A series of monkeys was inoculated in the brain, each monkey receiving 0.5 c.c. of one of the mixtures of virus and serum, Nov. 30, 1910.

The two control monkeys receiving the mixtures of normal serum and virus developed typical paralysis on the eighth and tenth days respectively.

The monkeys receiving the mixtures of virus with the serum of Patients 7, 8 and 11 also developed equally typical paralysis on the seventh, fifth and seventh days respectively. All the others have remained well up to the present time (Feb. 4, 1911).

It will be noted that the three specimens of serum which failed to affect the virus were from young persons (Patient 7, aged 16; Patient 8, aged 10; Patient 11, aged 7). The remainder of the serums were from adults. This suggested two possibilities:

1. The serum of normal adults may have considerable germicidal properties for the virus.

2. The serum of children, even when they have had an attack of poliomyelitis, may not develop germicidal antibodies; or may develop them in smaller amounts than the serum of adults.

SERIES 2.—To test these hypotheses, we inoculated another series of monkeys with exactly the same technic, except that, instead of a *5 per cent.* emulsion of spinal cord we used a *1 per cent.* emulsion (fresh cord of Monkey 29, inoculated December 13; paralysis of hind legs December 23; chloroformed and cord removed December 23).

In this series we used again the serum of Patients 7, 8 and 11, and for controls took the serum of three normal adults (J. F. A., C. H. L., and W. H. F.) and of two normal children (R. and W.). Granting an equal concentration of the virus in the two cords used in series 1 and 2 (Monkey 15 and Monkey 29), each specimen of serum would now be mixed with the same *volume* of emulsion as in Series 1, but with *one-fifth of the amount of virus.* Also, the amount used in inoculation (0.5 c.c.) would represent only one-fifth of the amount of virus inoculated into the animals of series 1.

The results in this series were somewhat irregular. The monkeys receiving the serum of two of the normal adults (C. H. L. and W. H. F.) developed poliomyelitis on the fifth and thirteenth days respectively. The monkey which received the serum of Patient 7 developed paralysis of all extremities on the eighth day. None of the other monkeys, including those which received the serum of Patients 8 and 11, the serum of one normal adult (J. F. A.), and of the two normal children, have developed paralysis up to this time. Two of the monkeys, however (those receiving the serum of the two normal children), appeared about a week after inoculation to have an indefinite illness, manifested by slight rises of temperature, loss of appetite, nervousness, and undue excitability. Whether these may be considered abortive attacks of poliomyelitis is extremely questionable.

These results would indicate that in this series we had approached the limit of proportions in which normal human serum may exert a neutralizing effect on the virus of poliomyelitis, or else had approached the minimum effective amount of virus for inoculation. They indicate pretty clearly that the serum of Patient 7 had no unusual germicidal properties, but leave the other two cases (8 and 11) in doubtful status.

SERIES 3.—Three specimens of normal serum having been found capable of neutralizing the virus in the proportion used in Series 2, that is, against equal volumes of a *1 per cent.* emulsion of virus, it remained to test these three specimens again under the conditions of Series 1. Accordingly we inoculated another series of monkeys, using a *5 per cent. emulsion* of virus (fresh cord of Monkey 9, inoculated Jan. 7, 1911; died fourth day; gross and histologic lesions typical).

The serums used were the same specimens which had shown neutralizing properties in Series 2, viz., from one normal adult (J. F. A.) and two normal children (R. and W.). The technic and proportions were exactly as in Series 1.

All three monkeys came down with typical paralysis between the eighth and the twelfth days.

The three series of experiments are presented in the accompanying tables.

SUMMARY

The results of these experiments may be summarized as follows:

Normal Human Serum.—The results in Series 2 indicate that normal human serum may have a germicidal action on the virus of poliomyelitis. If this is so, however, the action has quantitative limits which clearly differentiate it from the action exercised by the serum of persons who have had poliomyelitis as shown in

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[8] Dakin, C. E.: Iowa Med. Jour., Nov. 15, 1910, p. 229.

Series 1 and 3. No appreciable difference has been demonstrated between the normal serum of adults and of children in regard to their action on the virus.

Serum of Patients Who Have Recovered.—As shown by the workers above cited and by our results, the serum of persons who have recently recovered from frank attacks of poliomyelitis exhibits a germicidal action on the virus considerably greater than that exhibited by normal serum. Serum from a person suffering from paralysis of spastic type showed the same properties, thus confirming the clinical evidence that acute poliomyelitis may cause paralysis of this type.

The serum of six out of nine patients (66.7 per cent.) who had recently recovered from suspected poliomyelitis without paralysis (abortive cases) showed the same germicidal action as the serum from a frank case of poliomyelitis.

In the serum from the other three suspected abortive cases of poliomyelitis we were unable to demonstrate any germicidal property beyond that shown by normal serum. These three specimens of serum were all obtained from young persons. These three cases clinically resembled poliomyelitis more than did some of the adult cases; and the symptoms were, on the whole, equally severe. The following possibilities suggest themselves:

1. The cases may not have been poliomyelitis.
2. They may have been poliomyelitis, but, if so, antibodies were either formed in less amount, or disappeared more rapidly than in the adult cases.

The experimental evidence on which the specificity, constancy and quantitative relations of this reaction must be estimated is scant. So far as it goes, however, it justifies the inference that the reaction as demonstrated in our experiments is specific.

We feel justified in concluding that the diagnosis of acute poliomyelitis has been established in six of our nine suspected abortive cases. The diagnosis in the other three is not cleared up by the experiments. The clinical and epidemiologic evidence of poliomyelitis in these cases must be weighed against the absence of a serum-reaction of unknown constancy.

The facts here presented have a significant bearing on the diagnosis and epidemiology of acute anterior poliomyelitis.

DIAGNOSIS

The generally accepted criterion for diagnosis of poliomyelitis has been the development of paralysis or at least definite weakness. It has been urged that the attempt to make a diagnosis on any clinical evidence less than this would result in hopeless confusion; and this is partly true in the present state of our knowledge of the disease. In the cases of our series, however, poliomyelitis had been suspected on clinical evidence alone and confirmed by biologic test in 66.7 per cent., a fact which would indicate that the diagnosis of abortive cases of this class is not wholly a matter of guess-work, provided special attention has been directed to poliomyelitis, as was the case in Mason City. No laboratory diagnostic methods of demonstrated reliability and universal application have been evolved. The early examination of cerebrospinal fluid is the most reliable laboratory method at present known. Lumbar puncture for diagnosis is hardly justifiable, however, unless some consideration of the safety, either of the patient or of the community, makes an accurate diagnosis of special importance. Total and differential leukocyte counts offer a promising aid to diagnosis, but much more work will be necessary to establish the reliability of this method. But even in the absence of any specific diagnostic methods, much light can doubtless be thrown on the subject by a careful and conservative study of all cases which may reasonably be suspected of being cases of poliomyelitis, paying especial attention to examination of the nervous system and to association with cases of frank poliomyelitis.

Until the clinical recognition of poliomyelitis is placed on a more reliable basis there will remain an indeterminable factor in its epidemiology, a factor whose significance can only be surmised at present. Conclusions from epidemiologic data will have to be correspondingly conservative.

A more detailed discussion of abortive cases, as observed in Iowa, and of their epidemiologic relations will be reported in a forthcoming bulletin of the Hygienic Laboratory.

Therapeutics

PROPHYLAXIS OF SCARLET FEVER

Every physician, no matter how limited or specialized he may attempt to make his practice, is likely to encounter a case of scarlet fever, and to have his opinion asked in regard to what should be done to prevent the transmission of the disease to others. Even if he does not personally encounter the disease, he cannot avoid being asked the same question, apropos of some case he has not seen, by an anxious mother or a father seeking for positive information from one whom they believe to have the knowledge of an expert. It reflects no credit on his scientific attainments, it does not increase the confidence in him of his patients, if he cannot state promptly, clearly, concisely and positively what should be done by the family in which the disease occurs to prevent its spread to other individuals, what the family which does not have it, but is afraid of getting it, should themselves do, as well as what they have a right to expect others to do, in order to prevent the spread of the disease.

To the striking development of knowledge of sanitary science and preventive medicine which has taken place during the last three or four decades we are indebted for the wider recognition of the fact that scarlatina, scarlet rash and scarlet fever are synonymous terms, that they do not indicate different diseases, but one and the same disease. Formerly, many of the laity and not a few physicians believed, or at least said, that scarlatina and scarlet rash were different from scarlet fever. But numerous careful observations have shown, and the profession generally has learned, that while scarlet fever may be, and often is, a very serious disease with high temperature, severe sore throat, intense and widely spread eruption, followed by copious desquamation, the fever may be slight or entirely absent, the throat may not show more than slight congestion, the eruption, if not entirely absent, may be not very pronounced in appearance, not widely spread over the body and of rather transient duration, while the desquamation may be so slight as to be hardly recognizable.

Furthermore, it is now generally recognized not only that the very mild cases may be followed by the most serious sequelæ which are observed after the severe forms of the disease, and particularly by inflammation of the kidneys, but also that severe forms of scarlet fever may be, and often are, contracted from patients whose symptoms have been exceedingly mild.

Scarlet fever differs from measles, with which it is often associated in discussions, and in popular thought, in the fact that everyone seems to be susceptible to measles, and to contract the disease on exposure, if he has not already suffered an attack; while many seem to be not susceptible to scarlet fever, and do not contract the disease after direct and frequent exposure. A possible explanation of this apparent immunity to scarlet fever may be, at least in some cases, that these immune individuals have in their earlier life passed through an attack of scarlet fever of so mild a type that no physician was called to the patient, or if one was called, he did not recognize the nature of the disease. This, however, probably does not explain all cases of apparent immunity. Undoubtedly there are many persons who never contract the disease except after unusual exposure. On the other hand, it is unjustifiable carelessly or wittingly to expose child or adult to the disease, no matter how mild the type may be.

At the outset of a discussion of the subject we are hampered by the lack of any definite, positive knowledge as to the exact nature of the disease, and the method in which it is transmitted from one individual to another. It has long been believed that the contagious element of the disease existed in the scales which occur in greater or less profusion during desquamation. At present there is a tendency to believe that the scales do not possess great power of transmitting the disease during all stages of desquamation, and especially toward the termination of that process. On the other hand, it has not been proved that the scales are innocuous, or that they become so at any definite period of the stage of desquamation. Consequently, it becomes of great importance to control the dissemination of these scales.

Furthermore, of late the belief has been gaining ground that the element of contagion exists actively and abundantly in the secretions from the throat and nose, and also in the discharges from the ear and from suppurating glands when they are present. Obviously then, the problem which confronts both family and physician, as well as sanitarian, is to control the dissemination of these various secretions, discharges, exfoliations, and the usual excretions.

The key to the mastery of the problem is a dual one and embraces first, isolation; second, disinfection.

The establishment of isolation often taxes severely the tact and good judgment of the physician. If the family is large and lives in a small house or apartment and on a limited income, and if the municipality of which they are citizens affords the luxury of an isolation hospital, or a hospital or wards of a hospital are set apart for the treatment of contagious diseases, obviously the easiest, and, for the family, the cheapest way out of the otherwise complicated situation is to transport the patient immediately to such an institution. Here he will be under the care of attendants who are accustomed to handling patients with the disease, and who are trained to exercise all the precautions necessary to prevent the spread of the disease.

But it is possible to make this disposition of the case in only a limited number of localities. Most towns have no special provision for taking care of scarlet fever, and in such cases the patients must be treated in their own homes. If the family has ample means and lives in a large house, a large room or a suite of rooms must be set apart for the exclusive use of the patient and the special attendant, who must be secured to give hir exclusive attention. Such an apartment or suite should if possible, be selected on the third floor of the house o at the end of a hall, so that the other members of th family will have no occasion to go near it. The roor should be large and sunny, and all unnecessary articles such as curtains, upholstered furniture, and ornaments should be removed, so that there will be as few article as possible to which the disease poison may adhere an which will need to be cleaned or destroyed after th recovery of the patient. The attendant should no invade other parts of the house. Food and other necessities should be left outside the door of the apartmen occupied by the patient by another member of th household. Similarly, everything which require removal from the infected apartment should be disinfected and placed outside the apartment, and thenc carried away. The most important things which ar likely to require removal are dishes, clothing, an excreta. These should be disinfected by being placed i suitable vessels and then allowed to soak for an hour i a 2.5 per cent. solution of phenol (carbolic acid) Things which are of little or no value and which ar combustible, such as the remnants of food and pieces o cloth or paper which have been used about the roon should be burned. If the nurse finds it necessary t leave the patient's quarters, she should change all he outer garments outside of the patient's room, she shoul cover her hair, and avoid coming into close contact wit anyone. These precautions of isolation should be carried out continuously and strictly until desquamation i entirely completed. During the period of desquamatio the patient should be sponged or bathed once or twice day with hot water (and if there are bath-room facilities the convalescent should have a daily hot tub bath) and then the skin should be anointed with adeps lan hydrosus (lanolin) which has been softened with almon (or other bland) oil, and perfumed to suit. Phenc (carbolic acid) ointments are inadvisable, as any absorption would irritate the kidneys. Sponging with alcoh is contra-indicated. After desquamation has ceased, th patient should remove all the clothing which he ha been wearing, take a warm bath, with soap, and hav his head well shampooed. Then he must dress himsel throughout in fresh clothing.

After the patient has left the apartment it should b thoroughly disinfected. Formerly this was accomplished by burning sulphur in the room, but this ha been superseded by formaldehyd, which is more efficient is less injurious to the contents of the room, and is nc more troublesome nor much more expensive. Drawer of bureaus and chiffoniers should be opened and thei contents loosened, clothing should be hung on chairs o lines, and the bedding should be distributed so that th formaldehyd gas may easily penetrate everywhere. Th 40 per cent. formaldehyd solution may be efficientl used by sprinkling it on wet sheets hung on line stretched through the room. Keyholes and open space around doors and windows should be stuffed with cottor cloth, or paper, so as to retain the gas in efficient concentration to disinfect the room. One pint of the so called 40 per cent. solution should be used for a roon of ordinary size. After twenty-four hours the window of the room should be opened widely, and fresh air and sunlight should be allowed to enter freely and penetrate every part of the room. It should never be forgotten that outside air and sunshine are among the most useful of disinfectants. Carpets, rugs and bedding should be hung outdoors, so as to be thoroughly exposed to the sun and wind. Such articles of clothing and bedding as are washable should be boiled for an hour.

When it is possible to carry out such strict isolation as has been described, there is no necessity of quarantining the rest of the family, but, unfortunately, such complete isolation is ideal, and can rarely be carried out in actual practice. Even when a large family occupies a few rooms, it is essential that one room be selected for the patient, and that he be kept in it constantly, and that the other members of the family be kept out of it entirely, except one who is selected to act as the attendant, usually the mother. Under such conditions it is usually entirely impracticable for the attentant to remain constantly in the room with the patient. She must frequently leave the room, not only to get things which the patient requires, but also to perform services for the remainder of the family. Under these circumstances it is desirable and is often entirely practicable that such members of the family as attend school, or work in stores or shops should leave home, and should live elsewhere for six or eight weeks. Those who are obliged to remain at home should avoid as much as possible coming into contact with the attendant. The latter should have several aprons, with sleeves, and large enough to cover all her other clothing. One of these she should wear constantly while in the patient's room. A sheet dampened with phenol (carbolic acid) solution, or other antiseptic solution, hung over the door is believed by many to assist materially in preventing the spread of the infectious agent.

Just here a word should be said of the physician's personal duty in order to avoid carrying the disease from house to house. It is generally believed by the medical profession that physicians who use even a moderate degree of caution rarely transport the disease from a patient to another individual, and when this does happen, the victim is usually a member of his own family.

Certain precautions he may wisely observe. He should endeavor so to arrange his calls that he will not go directly from a patient ill with scarlet fever to a family in which there is a child. On entering the house of such a patient he should put on a long cotton, linen or rubber coat, which should be left just outside the patient's door. He should avoid sitting on the bed, or allowing the bed-clothing to come in contact with his own clothing. He should not prolong his visit unnecessarily. Before leaving the room he should thoroughly wash his hands and dry them on a clean towel.

During the convalescence the patient should not be allowed to use books from the public library or the public school, and should use only such books, magazines and newspapers as can be burned when he is through with them, or when the period of isolation is ended. Neither should he be allowed to write and send letters through the mail or by messenger to his friends.

Can anything be done or any medicine prescribed which will prevent the development of scarlet fever in a person who has been exposed to the disease? Although many practitioners have been in the habit of prescribing medicine designed, so they claimed, to prevent persons exposed to the disease from contracting it or developing it, candor compels the statement that no drug or any treatment is known which will accomplish this result. Although belladonna has been extensively used for this purpose, and has been believed by many to have accomplished the prevention of the disease, there is no adequate reason for believing that it has ever produced this result.

If a physician feels inclined to do something, as he is often asked to do, it is perfectly legitimate to prescribe the use of an alkaline antiseptic gargle, but with the full realization on the part of the physician, even if he does not confide the fact to the family, that he cannot, thereby prevent the disease, though he may put the pharyngeal mucous membrane in a better condition to resist the invasion of pathogenic microorganisms, and consequently to lessen the severity of the inflammatory process in the throat should the disease occur.

Although often advocated, and sometimes used, the impregnation of the atmosphere of the room with antiseptics (phenol) and aromatic oils seems to be of no value in killing the germs or in hastening recovery. Various cresol preparations are recommended for this purpose, but their value is small, and the danger of too much absorption of phenol vapor causing kidney irritation is ever present. The fraudulent assertion that ozone-producing apparatus prevents the growth and dissemination of scarlet fever germs is little less than criminal.

It should not be forgotten that dogs and cats must be excluded from all patients suffering with contagious diseases, and this is especially true of scarlet fever. The doors and windows must be screened from flies, if it is the season for them.

Fatigue and the Hours of Labor.—After stating that the human body is the most efficient machine in existence, Dr. John B. Huber in the *Scientific American*, Jan. 21, 1911, says that the best surety against accident is an alert mind in a virile body, while, on the other hand, the ideal predisposition to accident is an exhausted, rundown, devitalized human machine. There is now no question, he says, of the reality of the relation between fatigue and accidents; in Europe this has been scientifically noted for practically all forms of human activity. Bank clerks make most of their mistakes in the late afternoon; and this appears to be one of the reasons for the comparatively early closing of such institutions, since bankers have found employees' mistakes to be expensive. Everyone now knows that dire calamity results when railway men work continuously too many hours. People should understand also that physicians are not to be overworked; and that rather than this, substitutes or assistants had best be willingly accepted; men who have in their charge the keeping of human health (the most precious thing in existence) must be vouchsafed normal minds in normal bodies. The part-time method of school attendance of children is, doubtless, often unavoidable. Still it has disadvantages; and of these by no means the least is that in the afternoons the minds of children are unfairly taxed, especially when they are made to grapple with such difficult subjects as mathematics, which should be a morning study, when the minds of children are clear and fresh. One here perceives the best of all arguments —from whatever viewpoint one chooses—for the eight-hour day for all forms of labor. For some kinds of labor even eight hours is much too long. It is melancholy to observe that for many employers the prevention of fatigue accidents can be brought about only by making them very expensive. A wise corporation, however selfish, will here instinctively reduce its hours of labor; for reasons of economy, if for no other. After all, it is gratifying to note that the essential parallelism of efficiency and humanity is being increasingly appreciated throughout civilization.

Correction in Salvarsan Technic Article.—In THE JOURNAL, Feb. 25, 1911, page 568, in line 8, instead of 15 c.c. read 25 c.c.

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[*For other information see second page following reading matter*]

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CANCER IN FISH

Comparative pathology is rapidly adding much valuable material for our understanding of the biology of cancer, and we are in a fair way toward the establishment of a distinct branch of research in this direction. It certainly is of much significance that cancers, or growths which greatly resemble them, occur in all animal forms, at least in all vertebrates, and are not the unhappy heritage of the human race exclusively. We are coming to realize that not only our common domestic animals may succumb to cancer, but even the cold-blooded animals sometimes suffer the same fate. Typical malignant growths have been described in birds, reptiles, frogs, turtles, salamanders, eels, and especially in fish. Schmey,[1] who has recently reviewed the literature, has found reports of fifty-nine cases of tumors in fish, not including the large numbers of thyroid tumors described in certain epidemics in fish hatcheries.

At one time it was currently stated that cancer occurred in carnivora, but not in herbivora, which bit of evidence was eagerly seized and freely used by the vegetarians. They forgot, or at least neglected to emphasize, that cancer is a disease of mature life, and that the carnivora live to a ripe old age by cutting down the herbivora in their tender, non-cancerous youth. More abundant observation has shown that the herbivora also may become cancerous if they escape the maws of the carnivora and omnivora until late enough in life to entitle them to malignant disease. Another popular fallacy—that cancer was a disease of civilization and domestication from which wild animals did not suffer—has also been demolished. While wild animals with malignant tumors seldom come under the observation of persons competent to recognize the disease, enough cases have been described to show that free wild animals may develop cancer. Wild animals in captivity frequently show malignant tumors, a rhinoceros having recently succumbed in the Frankfort Zoological Gardens to a typical cancer of the uterus.[2]

It is the tumors in fish, however, which are just now of particular interest, because of recent observations on what have seemed to be epidemics of cancer of the thyroid arising in trout and salmon kept under rather artificial conditions in fish hatcheries. Pick and Plehn first made this condition generally known, describing epidemics in which as high as 7 per cent. of the fish developed thyroid growths. Similar epidemics have been studied in this country by Gaylord and by Marine and Lenhart. It is at once apparent that the occurrence of cancer as an epidemic in this way has an important bearing on the vital questions of the contagiousness and the possible parasitic origin of cancer, and it is desirable, therefore, to point out that the cancerous nature of these growths is by no means undisputed. Up to the present time this form of thyroid growth has been observed only in salmon and trout, apparently being peculiar to this variety of fish, just as the multiple epithelial growths of the skin are found only in the carp. The evidences of malignancy are furnished chiefly by the microscopic structure, which shows an invasion of tubules into muscle and bone adjacent to the thyroid, entirely comparable to the infiltration of tissues by cancer cells in human neoplasms; but metastases have not been found, and the behavior of the affected fish is not what one might expect in cancer.

The negative side of the question has been well presented by Marine and Lenhart,[3] who bring forward the following facts for consideration: The thyroid enlargement is found in fish kept under unfavorable conditions as to water-supply and crowding, and recovery occurs when the fish are given more freedom even in the same water, or when iodin is supplied in the water; the affected fish show nothing comparable to cancer cachexia, but are large, fat and sluggish, and probably in a condition analogous to cretinism; young fish are more affected than old fish. Furthermore, the microscopic evidence of malignancy, i. e., the invasion of muscle and bone, is not proof of the cancerous nature of the growth in fish as it would be in mammals, for the reason that in fish the thyroid is not normally enclosed within a capsule as it is in the higher animals, but consists of alveoli widely distributed in the areolar space about the ventral aorta. When the fish are kept under conditions which cause a proliferation of thyroid tissue similar to goiter in mammals, the new and enlarged alveoli cause pressure atrophy and replace surrounding structures until we have the picture which has been described as carcinoma of the thyroid. The non-malignant nature of the growth is shown by the fact that after such fish are placed in good water the hyperplasia may cease and a return to relatively normal thyroid tissue takes place. It is, of course, possible that in some cases the non-malignant goiter may become cancerous, just as it does in man, but the arguments of Marine and Lenhart that most of the supposed thyroid cancers of fish merely represent goiters seem well founded.

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[1] Schmey, Max: Ueber Neubildungen bei Fischen, Frankfurter Ztschr. f. Pathol., 1911, vi, 230.

[2] Betke: Frankfurter Ztschr. f. Pathol., 1910, vi, 19.

[3] Marine, David, and Lenhart, C. H.: Jour. Exp. Med., 1910, xii, 311.

IMPORTANT RECENT CONTRIBUTIONS TO OUR KNOWLEDGE OF POLIOMYELITIS

Landsteiner and Popper[1] first demonstrated experimentally the infectious nature of poliomyelitis. They showed that the disease could be produced in monkeys by inoculating them with an emulsion of the cord from a child who had died of poliomyelitis. This was soon confirmed by the work of Flexner and Lewis[2] who reported that, by using the intracerebral method of inoculation, they were able to transmit the disease to monkeys in series.

Since this pioneer experimental work, much has been added to our knowledge of the experimental disease by workers in this country and in Europe, reference to most of which has been previously made in these pages. Recently there have appeared in THE JOURNAL three papers by different workers which may almost be said to be the most important contributions to our knowledge of the disease since the early work above mentioned.

Osgood and Lucas[3] show that it is possible to produce typical poliomyelitis in monkeys by the inoculation of a filtrate of the nasopharyngeal mucosa of two monkeys dying without other discoverable infections six weeks, and five and a half months, respectively, after the acute stage of the disease. They were unable to transmit the disease by inoculation of the cord from the same monkeys. From this it follows that the virus of the disease may persist in an infective condition in the nasopharyngeal mucosa of monkeys several months after the acute manifestations of the disease have ceased, but that after the same period it is not demonstrable in the brain and cord.

These observations are of the highest importance and if similar results can be obtained with the nasopharyngeal mucosa from human cases it would seem that our present ideas as to the period of infectivity in recovered cases of the disease will have to be altered. These results may also explain some obscure facts in the epidemiology of the disease.

The most important feature of the paper by Drs. Flexner and Clark,[4] of the Rockefeller Institute for Medical Research, is in regard to the use of hexamethylenamin in the treatment of the disease. This drug has been used by clinicians in the treatment of poliomyelitis and has been thought by some to be of value. Theoretically, the drug should be of benefit, as it has been shown that after its administration *per os* formaldehyd can be detected in the spinal fluid. Flexner and Clark found that if the drug be given so that it be present in the spinal fluid of a monkey and its administration be continued by mouth, injection of the virus intracerebrally resulted, in some of the animals but not in all, first, in a prolongation of the period of incubation from six or eight days to twenty-four days; and, next, in the prevention of paralysis.

The authors emphasize the importance of these observations as showing that drug control of the virus in the body is a possibility, but that the successful results reported are in inhibiting infection, but not in restraining an already established infection with the virus. Flexner and Clark also report the demonstration of immunity principles in the serum of a suspected abortive case, and the confirmation of Osgood and Lucas' work as to the persistence of the virus in the nasopharyngeal mucosa of monkeys surviving the acute stage of the disease.

The paper by Anderson and Frost,[5] of the Hygienic Laboratory, which appears in this issue, deals only with the question of abortive cases. Since the publication of Wickman's[6] monograph on epidemic poliomyelitis, clinicians have come to believe that cases of the disease occur without subsequent paralysis. The clinical evidence on which such opinion is based is as follows: In outbreaks of the disease cases are encountered showing all gradations in the degree and extent of paralysis. In the same group may be found cases resulting in lasting paralysis; cases of transient paralysis, lasting only a few weeks; other cases in which there is no definite paralysis, but merely muscular weakness of short duration; and finally cases of illness with the symptoms of a general infection accompanied by symptoms indicative of meningeal, spinal or encephalic irritation, but without definite motor disturbances.

Taking advantage of the fact reported by several observers that the serum of persons who have recovered from an attack of poliomyelitis would neutralize the virus of the disease so that when injected into monkeys infection would not take place, Anderson and Frost studied the serum from nine suspected abortive cases of poliomyelitis without paralysis and found that the serum of six (66.7 per cent.) of the nine possessed the same germicidal action against the virus as the serum from a frank case of the disease with extensive paralysis. They thus established the correctness of the clinical diagnosis by confirmation with the biologic test. They also by the demonstration of neutralizing principles in the serum confirmed the clinical diagnosis of a type of poliomyelitis with spastic paralysis.

The importance of the results reported in these three papers can hardly be estimated, but their possible bearing on the epidemiology and control of the disease is obvious. The papers, however, bring out the following points very clearly:

1. The clinical diagnosis of abortive cases of poliomyelitis is a possibility and the fact that such cases have been definitely demonstrated may explain the apparent

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[1] Landsteiner, K., and Popper, E.: Zeitschr. d. Immunitätsforsch. Orig., 1909, ii, 377.

[2] THE JOURNAL A. M. A., Nov. 13, 1909, p. 1639.

[3] Osgood, R. B., and Lucas, W. P.: Transmission Experiments with the Virus of Poliomyelitis, THE JOURNAL A. M. A., Feb. 18, 1911, p. 495.

[4] Flexner, S., and Clark, P. F.: Experimental Poliomyelitis in Monkeys, THE JOURNAL A. M. A., Feb. 25, 1911, p. 585.

[5] Anderson, J. F., and Frost, W. H.: Abortive Cases of Poliomyelitis, THE JOURNAL A. M. A., March 4, 1911, p. 663.

[6] Wickman, Ivar: Beiträge zur Kenntniss der Heine-Medinschen Krankheit, Berlin, 1907, S. Karger.

immunity of children in households where there are cases with frank paralysis.

2. It has been demonstrated that monkeys, after the acute stage of the disease has passed, are carriers of the infection in the nasopharyngeal mucosa; and the same thing is possible with human beings. If this is proved to be the case, efforts for the control of the disease must take into consideration such carriers. Cases of these two types add serious difficulties to the efforts for the control of poliomyelitis.

3. The results obtained in the use of hexamethylenamin in inhibiting, in a certain proportion of cases, the onset of paralysis suggests the possibility of the use of this drug in serious outbreaks of the disease as a prophylactic.

SUBACUTE INFECTIVE ENDOCARDITIS

Subacute infective endocarditis is a condition long recognizable by clinicians through certain signs and symptoms; the isolation of the infectious agent from the blood in order to clinch the diagnosis is, as yet, a method of examination too seldom used.

The disease is insidious in onset and may develop in any one of several ways. Thus, one patient may suffer from dyspnea, with or without precordial distress, general weakness, emaciation, vague pains, cough, or arthralgia; another may present a condition simulating subacute rheumatic fever and often indistinguishable from it; or a third may have fever, often unexplained by the physical examination.

Clinically, the manifestations of this type of endocardial disease may include: (1) signs of valvular disease, usually present, but occasionally lacking; (2) fever, often slight, at times high and intermittent, always irregular, with or without chills; (3) malaise, gastric disturbances, weakness and emaciation; (4) anemia, usually of marked grade, with a peculiar earthy pallor of the skin; (5) splenomegaly, ostealgia, and arthralgia, joint swellings and, as Libman has pointed out, tenderness over the gladiolus sterni.

Embolic aneurysms are common. Painful erythematous nodules—the *nodosités cutanées éphémères* of the French—are sometimes present. Petechiæ are common and hematuria is not a rare complication.

The disease is more often noted among private patients than in hospital wards. Its duration varies from two months to one and a half years and it is almost invariably fatal.

According to Horder,[1] infective endocarditis is preeminently a form of streptococcal disease "for streptococci occur in 66 per cent. of the cases." The organism isolated by him, however, was not the ordinary virulent *Streptococcus pyogenes,* but a form more nearly allied to the more saprophytic streptococci of the alimentary tract—*Streptococcus salivarius,* etc.

More recently, Rosenow,[2] and Libman and Celler[3] have studied the blood of patients with subacute infectious endocarditis and have isolated organisms the presence of which they consider of diagnostic import.

In thirty-six of the forty-three cases studied by Libman and Celler blood-cultures were made. In thirty-five of these they found atypical "endocarditis cocci" which were Gram-positive, round, ovoid or bacillary in form, occurring in clusters, in pairs or in chains, never encapsulated. These cocci are smaller than ordinary streptococci or pneumococci and grow more feebly. In the original cultures from the blood, growth was noted first after forty-eight hours, rarely as early as twenty-four hours, often not until after five or six days. On agar, a feeble translucent growth appears, adherent to the surface of the medium, a characteristic lost in subcultures. "On blood-agar plates a definite clear zone is sometimes, though rarely, seen, usually taking two to four days to develop. In transplantations this is lost. Colonies in the original plates are usually white in color, with or without a green or an opaque zone about them. In subsequent cultures on blood-plates three types of growth are seen. There may be a production of green pigment, there may be a moist white growth, or a dry, almost colorless, very slight growth." They are not dissolved by bile. About one-third of the strains ferment inulin. All strains precipitate or "whiten" serum-glucose agar.

The "endocarditis cocci" are not very pathogenic for mice, though peritonitis and endocarditis have been produced by them.

The attenuated nature of these atypical cocci—whether they be pneumococci, as Rosenow and Billings[4] regard them, or streptococci, as Libman and Celler and Schottmüller[5] class them—agrees with the course of the disease and may serve to explain several of its striking features, including: (*a*) the chronicity in many cases and the latency of the malady in others; (*b*) the slight grade or entire absence of leukocytosis often seen; (*c*) the afebrile periods which are common and the occasional absence of fever altogether; (*d*) the absence of suppuration in the infarcts; (*e*) the enormous numbers of the cocci that may be present in the blood-stream without causing grave symptoms.

These "endocarditis cocci" do not appear to be specific, though they have never been found in other conditions. The discovery of them gave rise to the hope of an antiserum or of a vaccine therapy, but so far treatment along such lines has been without favorable result. In fact, according to Rosenow, vaccine therapy may even prove harmful. Now that a more accurate knowledge of the disease has been reached, and the etiology cleared up, the dawn of a rational therapy would seem to be near.

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[1] Horder: Quart. Jour. Med., 1909, ii, 289.

[2] Rosenow: Jour. Infect. Dis., 1909, vi, 224.

[3] Libman and Celler: Am. Jour. Med. Sc., 1910, cxl, 516.

[4] Billings, Frank: Arch. Int. Med., 1909, iv, 409.

[5] Schottmüller, H.: München. med. Wchnschr., 1910, lvii, 617; abstr. in THE JOURNAL A. M. A., May 14, 1910, p. 1658.

THE TESTIMONIAL

It is reported that United States District Attorney Sims has obtained a ruling from the federal courts barring out testimonials as evidence in those cases in which the question of the curative properties of "patent medicines" are before the courts. It is gratifying to learn that the courts have at last taken a stand on this question. Week in and week out, for years past, THE JOURNAL has persistently and consistently maintained that testimonials from laymen regarding the curative value of medicine or medical appliances are intrinsically worthless and scientifically valueless. In taking this attitude, it has not been assumed that such testimonials are of necessity fraudulent in their origin. We believe that, at least during the last four or five years, a large proportion of testimonials published by "patent medicine" houses and quacks of various denominations have been genuine as documents; that is to say, a large proportion have been written in good faith by individuals who really believed, at the time they wrote these tributes, that they had received benefit from the drug or appliance whose praises they sang.

The reason for this condition of affairs is perfectly apparent to physicians, but not so evident to the public. Every physician knows that a large proportion of those who are sick, or who think they are sick, will recover whether they receive treatment or not. The average layman, however, has but little faith in the healing power of Nature, and persists in ascribing the "cure" to whatever artificial means he may have employed to bring about relief. In other words, few men without scientific training are able to discriminate between a mere relation of sequence in time and one of cause and effect. It is this very human weakness to give credit to human agencies for what rightly belongs to Nature, that is chiefly responsible for the testimonial—whether the testimonial be for a "patent medicine," for a worthless electrical device or for the various forms of "absent treatment."

No man in the United States has had a better opportunity of determining the worth, or worthlessness, of testimonials than has the assistant attorney-general to the postmaster-general, Judge R. P. Goodwin. On Judge Goodwin, for some years past, has devolved the onerous task of passing on the evidence submitted by post-office inspectors in the numberless cases of fraud perpetrated on the public by various promoters, especially by nostrum vendors and quacks. Judge Goodwin's reports have been very largely the basis on which the postmaster-general has issued the fraud orders in such cases. This is what Judge Goodwin says regarding testimonials:

> "Speaking generally, it may be said that in all my experience in this office never has a medical concern, no matter how fraudulent its methods or worthless its treatment, been unable to produce an almost unlimited number of these so-called testimonial letters."

It is rather surprising that testimonials have not been debarred as evidence long ago.

Current Comment

MORE DONATIONS FOR MEDICAL EDUCATION

It is pleasing to note that no one section of the country is receiving all of the gifts and appropriations for the improvement of medical education. From Oregon comes a report that the legislature has appropriated $30,000 for the department of medicine of the University of Oregon, to be used for the improvement of the college building, for laboratory equipment and for current expenses. In addition, the regents of the university have made an appropriation from the general funds of the university to pay the salaries of full-time professors in anatomy and physiology. From Tennessee comes a report that Vanderbilt University has just received a donation of $300,000, half of which came from the General Education Board as an addition to the endowment fund of the university; the remainder was a special donation from Mr. W. K. Vanderbilt for the purchase of the campus of Peabody Normal College, a sixteen-acre tract containing five or six buildings. These buildings are to be rearranged for the medical and dental departments of the university. The receipt of this money has made it possible for Vanderbilt University hereafter to assume full responsibility, financially and otherwise, for its medical department, and steps are now being taken to establish a university hospital. These developments in the extreme Northwest and in the South not only guarantee the continuance of medical education at the universities named, but also provide stronger and better-equipped medical colleges in sections of the country where, at the present time, their influence on educational standards will be particularly helpful.

NATIONAL TUBERCULOSIS DAY

The observance of National Tuberculosis Day in the churches all over the country on or about April 30 will be similar to that of Tuberculosis Sunday last year. This plan has been arranged by the National Association for the Study and Prevention of Tuberculosis. Instead of asking that the churches give the tuberculosis cause a special Sunday service, at which the subject of tuberculosis and its prevention can be discussed, it is requested that this service be held either on April 30 or on any day near that date. The idea is to have the subject discussed in all the churches at about the same time. The national association is attempting to arouse the churches to take further interest in the subject by soliciting their cooperation in the collection of statistics on tuberculosis. It has planned to distribute from the national office and from the headquarters of the 450 state or local antituberculosis associations millions of circulars. It is stated that the national association will, also, during the next three months, display on bill-boards throughout the country 20,000 educational posters. Free space on bill-boards in many parts of the country has been donated, as well as the printing of the posters. The posters show how fresh air, good food and rest cure tuberculosis; how bad air, overwork and closed windows lead to tuberculosis; and how the careless consumptive menaces the health of his family by his careless habits.

REAL TALENT WASTED IN A NARROW FIELD

A country dairyman in Louisiana has given indications that he possesses talent of an order that seems to be in great demand among many modern business organizations. A law prohibiting the sale of watered milk threatened to interfere seriously with the vested rights, customs and emoluments of an ancient and honorable business. The canny dairyman at once surmounted the difficulty by a ruse that would delight the heart of a modern trust lawyer. "Surely they can't prevent me from selling people what they want," said he, and so when his attention was called to his little oversight in not complying with the law he answered that he sold pure milk to the customers who requested pure milk and charged them forty cents a gallon for it, but to those who preferred watered milk he sold a fluid (percentage of H_2O not stated) for which he charged twenty-five cents a gallon. Could anything be simpler? Was anyone cheated? Not according to the philosophy of our friend the dairyman who, like the Irish gentleman, probably thought, "What's the law, betune frinds, anyway?" The state board of health, however, will proceed with the prosecution.

PUCK ON ANIMAL EXPERIMENTS

Not all comic papers are silly, neither are all editors of such papers devoid of logic and common sense. After the unfair and ignorant diatribes of *Life* on animal experimentation, the cartoon in last week's issue of *Puck* is distinctly encouraging and refreshing. The artist has portrayed a venerable scientist standing by his laboratory table, on which is strapped a rabbit. The assistant, with ether cone in hand, is ready to administer the merciful anesthetic. On the one hand a crowd of sentimental antivivisectionists, well-fed, well-clothed and healthy, are crying "For Mercy's Sake, Stop!" On the other hand, a shadowy throng of sufferers, the maimed, the crippled, the sick and the dying are groaning "For Humanity's Sake, Go On!" The scientist, looking from one to the other, is evidently weighing in his mind the arguments for and against animal experimentation. *Puck's* cartoon, making an appeal to the reason and the intellect, is a distinct contrast to the frantic efforts of *Life,* which have appealed only to the ignorant, the emotional and the sentimental. In behalf of suffering humanity, we extend our thanks to *Puck.* May his shadow (and his circulation) never grow less.

Eyestrain and Neurasthenia.—The man or woman who leads a life of mental ease and muscular exercise, or the one who has a well-balanced nervous system, or a large reserve of vital energy, will probably withstand a nerve waste which in another individual leads to neurasthenic symptoms. It is possible that in the ages when the simple life was the rule, peripheral irritation and nerve waste, such as eyestrain produces, made little or no impression on the individual; but who can doubt its bad effect in this twentieth century of turmoil and worry?—E. Clarke in the *Practitioner.*

Medical News

ARKANSAS

Report of Sanatorium.—The new Arkansas Tuberculosis Sanatorium, Fayetteville, is practically full. The limit of the accommodation is seventy-four, after which patients can be received only when vacancies occur.

Elections.—At the annual meeting of the Sebastian County Medical Society, held in Fort Smith, Dr. John C. Amis was elected president; Dr. Samuel J. Ozment, vice-president; Dr. Clark S. Wood, secretary; Dr. Charles W. Garrison, treasurer, and Dr. St. Cloud Cooper, censor, all of Fort Smith.——Washington County Medical Society has elected the following officers: president, Dr. P. L. Hathcock, Lincoln; vice-president, Dr. Andrew J. Harrison, Spring Valley; secretary, Dr. Nina V Hardin, Fayetteville; treasurer, Dr. Andrew S. Gregg, Fayetteville, delegate to the state society, Dr. Thomas W. Blackburn, Canehill, and alternate, Dr. Edward F. Ellis, Fayetteville.——At the annual meeting of Greene County Medical Society, held in Paragould, January 5, the following officers were elected: president, Dr. Jones H Lamb, Beech Grove; vice-presidents, Drs. E. L. Kennedy Marmaduke; George T. Hopkins, Paragould; Felix M. Scott, Paragould; secretary-treasurer, Dr Olive A. C. Wilson, Paragould; censors, Drs. Henry N Dickson, Paragould; W. R. Owens, Paragould, and R Edward Bradsher, Marmaduke, delegate to the state society, Dr. Thaddeus Cothren, Walcott, and alternates, Dr. George T. Hopkins, Paragould, and R. Edward Bradsher, Marmaduke.——Phillips County Medical Society, at its annual meeting in Helena, elected the following officers: president, Dr. Labrun Hall, Turner; vice-president, Dr. Albert A. Hornor, Helena; secretary-treasurer, Dr. M. Fink, Helena; censors, Dr. William C. King and James B. Ellis, Helena; delegate to the state society, Dr. J W. Price, Marvell.

CALIFORNIA

Warrants Issued for Chinese Doctors.—Fourteen local Chinese practitioners of Los Angeles, charged with practicing medicine without a state license, were served with warrants, January 31. The charges were preferred by the special agent of the state medical society.

Society Meeting.—At the annual meeting of Santa Barbara County Medical Society, held January 16, the following officers were elected: president, Dr. Benjamin Bakewell, Santa Barbara; vice-presidents, Drs. William B. Cunnane, Santa Barbara; C. C. Park, Santa Barbara, and William T. Lucas, Santa Maria; secretary-treasurer, Dr. Thomas A. Stoddard, Santa Barbara.

COLORADO

Hospital Completed.—The east wing of the Denver County Hospital has been completed at a cost of $103,496.

Open-Air Rooms for School Building.—An open-air room will be constructed for the use of children suffering from tuberculosis in all new school buildings of Denver, and in all additions to existing school buildings.

School for Defective Children.—The board of education of Denver has assigned one of the school buildings for the especial use of pupils, who, for any reason, are three grades behind children of corresponding age. A relatively large number of teachers, and those of special qualifications, will be assigned to this school, which will receive pupils from any part of the county.

Nominated for State Board.—Governor Shaffroth, at an executive session of the senate, submitted the names of Dr. Sherman Williams, Denver, and Jacob C. Chipman, Sterling, and Mr. E. F. Trunk, a druggist of Denver, as members of the State Board of Health.——It is announced that the legislative committee of the state medical society will go before the committees on apportionment of both the house and senate and file objections to the appointment of Mr. Trunk as a member of the board. He is said to be willing to retire from the board on his appointment as pure food commissioner.

DELAWARE

Resident Physician Cleared.—After the investigation into the alleged death of two patients of the Delaware Hospital from poisoning by the administration of bichlorid of mercury instead of calomel, it was found that there was no trace of poison in the stomachs of the deceased, and a verdict was rendered that the deaths were due to natural causes.

Personal.—Dr. Henry W. Briggs, Wilmington, has succeeded Dr. Joseph W. Bastian, resigned, as coroner's physician.——At the annual meeting of the Physicians and Surgeons Hospital, Wilmington, January 10, Dr. Joseph P. Pyle was elected president; Dr. Josephine W. DeLacour, vice-president; Dr. Thomas H. Phillips, secretary, and Dr. Smith Cooper, treasurer.

Society Meeting.—At the annual meeting of the New Castle County Medical Society, held in Wilmington, the following officers were elected: president, Dr. Henry W. Briggs; vice-president, Dr. James A. Draper; secretary, Dr. Albert Robin; treasurer, Dr. William H. Kraemer, all of Wilmington, and delegates to the state medical society, Drs. Harold L. Springer, Wilmington, Francis L. Springer, Newport; Henry W. Briggs, William H. Kraemer, Frank Belville, Delaware City, and Henry J. Stubbs, Wilmington.

GEORGIA

State Sanatorium to Open.—It is announced that the State Tuberculosis Sanatorium, Alto, will be opened March 1. A sufficient number of applications have already been received to more than half fill the institution. Dr. Edson W. Glidden, formerly of Wallingford, Conn., is superintendent of the sanatorium.

New Medical Association Organized.—The Jefferson County Medical Association was organized at Louisville, February 7, with the aid of Dr. Wyman W. Pilcher, Warrenton, councilor of the state medical association. Dr. James W. Pilcher, Stellarville, was elected president; Dr. G. F. Carpenter, Wrens, secretary; Dr. Pierce Hubert, Louisville, delegate to the state association, and Dr. Joshua R. Beall, Blythe, delegate to the Tenth District Medical Association.

ILLINOIS

Personal.—Dr. Guy G. Dowdall, Chicago, has been appointed chief surgeon of the Illinois Central System, vice Dr. John E. Owens.——Dr. William H. Holmes, Springfield, state bacteriologist, has resigned to enter the service of the State Board of Administration as assistant physician at the Kankakee State Hospital.——Dr. Dallas B. Phemister, Chicago, has returned from Europe.

Meeting of Medical Historians.—The third meeting of the Society of Medical History of Chicago was held February 24, when Dr. Otho B. Will, Peoria, the guest of honor, delivered an address on "A Chapter on the Pioneer Period of Medicine in Illinois." Preceding the meeting there was an informal exhibition of autographic material, participated in by many members of the society.

For a Fifth, a Clinical, Year.—Senate Bill 235, introduced February 23 at the instance of the State Board of Health, provides that when a medical college has a five years' course, the fifth year clinical, its students may be admitted to examination at the end of the fourth year and, if they pass, may receive a limited license good for eighteen months, entitling them to practice in a hospital. On graduation, the student will receive a permanent license without further examination. The bill also aims to give the State Board of Health jurisdiction, in the matter of revocation of certificates, over all issued since 1877.

KANSAS

Elections.—At the biennial meeting of the Northwest Kansas Medical Society, held in Topeka, February 9, Dr. Mervin T. Sudler, Lawrence, was elected president; Dr. E. James Blair, Lawrence, vice-president; Dr. Louis V. Sams, Topeka, secretary-treasurer.——Leavenworth County Medical Society, at its annual meeting elected the following officers: Dr. Harley J. Stacey, president; Dr. Charles J. McGee, vice-president; Dr. Jacob L. Everhardy, secretary-treasurer, and Dr. J. Waldo Risdon, delegate to the state medical society, all of Leavenworth.——Harvey County Medical Society, at its annual meeting in Newton, elected Dr. Richard S. Haury, president; Dr. Max Miller, vice-president, and Dr. Frank L. Abbey, secretary-treasurer, all of Newton.

KENTUCKY

More Money for Hazelwood.—The subscription fund to provide quarters for more patients at the Association Sanatorium, Hazelwood, near Louisville, has been growing steadily, and now amounts to more than $10,000. The fund has already permitted the erection of one additional building.

District Nurses Work.—The district nurse work of the King's Daughters in their quarterly report shows 2,487 visits made to various Louisville families in the three months ended January 31. A new feature of the work recently inaugurated is the attendance of one of the district nurses on the session of the Juvenile Court on each Friday. During the past three months the children of this court have been given medical attention.

Tuberculous School Children.—Superintendent E. O. Holland of the Louisville public schools, is compiling statistics as to the number of school children suffering from tuberculosis and the number that are truant and subnormal, with a view of segregating them from other pupils. From reports he has already received from principals and teachers it is believed that such large numbers will be found in the public schools that several buildings will have to be provided for them. Twenty-five suspected cases of tuberculosis have been reported from two buildings alone. To overcome the crowding of some schools a number of grades have been assigned for afternoon study. He reports that forty of the fifty-six buildings of the city are not properly ventilated, and that in many of the buildings two pupils sit in a seat made for one. It is proposed to stimulate the mental activity of the abnormal pupils with the kind of manual training work that will most fit their individual needs. The method of dealing with the truant and semi-incorrigible pupils has not yet been determined, but it has been agreed by the Board of Education that something must be done to segregate them from other children.

LOUISIANA

Hookworm at State University.—Following the investigation made by Dr. A. S. J. Hyde, of the Hookworm Commission, it is announced that 25 per cent. of the students thus far examined at the state university are infected with hookworm.

New Hospital Opened.—The formal opening of the Presbyterian Hospital, New Orleans, occurred February 4. Addresses were made by the mayor, the president of the board of managers, the president of the parish medical society, and others. The free clinic of the hospital is located at 730 Baronne Street, and is open to the worthy poor, irrespective of religious denomination, not only by day but from 7 to 9 p. m.

Parish Society Meeting.—At the annual meeting of the Iberville Parish Medical Society, held in Plaquemine, January 31, the following officers were elected: president, Dr. Boote O. LeBlanc, Saint Gabriel; vice-president, Dr. G. A. Darcantel, Whitecastle; secretary-treasurer, Dr. Adrian A. Landry, Plaquemine; censors, Drs. Arthur A. Allain, Bayou Goula, and Rome Martinez; delegate to the state medical society, Dr. W. Glendower Owen, White Castle.

MARYLAND

Make Appropriation for Sewers.—The citizens of Easton have voted to spend $40,000 for sewerage and drainage system.

Personal.—Dr. Richard C. Massenburg, Towson, has entirely recovered from his recent illness.——Dr. Josephine A. Wright, assistant superintendent of the Eudowood Sanatorium for Consumptives, near Baltimore, has resigned and will practice in Towson.

Diphtheria in Johns Hopkins Hospital.—On account of an outbreak of diphtheria among patients, nurses and physicians in Johns Hopkins Hospital, where about 35 cases are reported, the public wards have been closed to students and the public, and the medical school has also been officially closed until further orders. Those affected have been isolated in the two wards where the first cases occurred.

Academic Day Exercises.—At the Academic Day Exercises of Johns Hopkins University, February 23, Hon. James Bryce, ambassador from Great Britain, the chief speaker, was given the degree of LL.D., and a portrait medallion of Dr. William H. Welch by Brenn of New York, and an oil painting of Dr. William H. Howell were exhibited and presented during the exercises. The Homewood Fund for the removal of the university to a new site in the suburbs now amounts to $1,200,000.

Banquet to Professor Howell.—Dr. William H. Howell of Johns Hopkins Medical School, was the guest of honor at a banquet, February 20, when a portrait of him by Cecilia Beaux, was presented to the university by Dr. Reid Hunt of Washington, and was accepted by the presiding officer, President Ira Remsen of the university. Dr. William H. Welch spoke of the valuable work done by Dr. Howell; Hon. John C. Rose, judge of the United States circuit court, spoke of him as a citizen; and Drs. Samuel J. Meltzer, New York City, and W. W. Willoughby on his work as a teacher. President Remsen stated that he had never done anything more important for the school than when he persuaded Dr. Howell, who had been offered an important position in another university, to remain with his alma mater.

Baltimore

Members of Advisory Council.—The following have been elected medical representatives of the Alumni Advisory Council of the University of Maryland: Drs. Charles E. Sadtler, Joseph W. Holland, Harry Adler, B. Merrill Hopkinson, Eugene F. Cordell, Nathan Winslow, Albert L. Wilkinson, J. Clement Clark, and James D. Iglehart.

Personal.—Dr. Henry M. Hurd has resigned the superintendency of Johns Hopkins Hospital, after having served twenty-two years. He will remain as secretary and advisor of the board of trustees. Dr. Winford H. Smith, general medical superintendent of Bellevue and Allied Hospitals, New York City, has been elected as Dr. Hurd's successor.——Dr. Summerfield B. Bond is ill in University Hospital with carcinoma of the liver and pancreas.——Dr. J. Hall Pleasants has been elected a member of the Alumni Council of Johns Hopkins University.

MASSACHUSETTS

Influenza in Worcester.—During January, it is stated that approximately 3,000 cases of epidemic influenza were reported in Worcester, with one death.

Personal.—Dr. Owen Copp, Boston, executive officer of the State Board of Insanity for twelve years, has resigned to assume charge of the Pennsylvania Hospital for the Insane, Philadelphia.——Dr. Alfred O. Hitchcock, chairman of the board of health, Fitchburg, has resigned and his duties have been temporarly assumed by Dr. Dwight S. Woodworth.——Dr. Paul Carson, port physician at Boston, has been placed in charge of the city health department's division of child hygiene and school medical inspection. Dr. William M. Gay, assistant port physician, is in temporary charge of the quarantine station.

Dental Dispensary for Children.—The Forsyth Dispensary for Children, incorporated last year by special act of the Massachusetts Legislature, is to be located at Hemenway Street near Huntington Ave., Boston, and will be one of the notable group of buildings which includes Harvard Medical School. The land, building, and a maintenance fund of $1,000,000 are the gift of John Hamilton and Thomas Alexander Forsyth in memory of their brothers, James Bennett and Thomas Henry Forsyth. The site on the Fenway consists of 51,000 square feet. The building is to be three stories and two partial mezzanine floors in height. The basement will be occupied by the general waiting room for children, janitor's rooms, boiler and engine rooms, etc.; the first floor will have a lecture room seating 250, which is intended to be used for popular lectures on dental hygiene; a room for visiting dentists, museum and research laboratory, and founders' room, and rooms for anesthesia and extracting, with male and female wards. The second floor will be used entirely for the infirmary, about which as a nucleus and subservient to the requirements of which the rest of the building is constructed. There will be in this infirmary accommodation for 108 operating chairs with waiting, *x*-ray and reserve rooms.

MINNESOTA

New Hospital.—Plans have been completed for the hospital building which Dr. George G. Eitel is to build at Fourteenth and Willow Street, Minneapolis. The building is to be five stories in height with high basement and is expected to cost $150,000.

Medical Society Meetings.—The Rice County Medical Association, at its annual meeting, held in Northfield, elected the following officers: president, Dr. Arthur C. Rogers, Faribault (reelected); vice-presidents, Drs. Warren Wilson, Northfield, and William H. Rumpf, Faribault; secretary-treasurer, Dr. Frederick U. Davis, Faribault; delegate to the state society, Dr. David M. Strang, Northfield; and alternate, Dr. Isaac F. Seeley, Northfield.——Waseca County Medical Society, at its annual meeting, elected the following officers: president, Dr. Alexander J. Rudolf, Waseca; vice-president, Dr. William M. Cory, Waterville; secretary-treasurer, Dr. Henry G. Blanchard, Waseca; censors, Drs. Frederick A. Swartwood, Waseca; W. A. Meiliche, Janesville; and Henry O. Hagen, New Richland; delegate to the state association, Dr. James F. Lynn, Waseca; and alternate, Dr. Edwin J. Batchelder, New Richmond.——At the annual meeting of the Upper Mississippi Valley Medical Association, held in Little Falls, Dr. Paul E. Kenyon, Wadena, was elected president; Dr. M. A. Desmond, Akely, vice-president; Dr. George H. Lowthian, Akely, secretary; Dr. William Reid, Deerwood, treasurer; Dr. Walter Courtney, Brainerd, censor; Dr. Frank H. Knickerbocker, Staples, delegate to the state association; and Dr. J. Burton Holst, Little Falls, alternate.

MISSOURI

Physicians Ignore Order.—Nine physicians of St. Joseph, who had failed to observe the ordinance requiring them to report cases of communicable diseases, have been cited to appear before the local board of health.

Bequest.—By the will of the late Dr. Ottoway T. Fields, a wealthy colored physician who died March 1, 1910, his medical library, surgical instruments and office appliances are bequeathed to Walden University, Nashville, Tenn., and $1,000 is devised to Provident Hospital, St. Louis.

St. Louis

Section Officers Elect.—At the meeting of the Oto-Laryngological Section of the St. Louis Medical Society, January 25, Dr. Albert F. Koetter was elected chairman; Dr. Max A. Goldstein, vice-chairman; Dr. Eugene T. Senseney, secretary-treasurer, and Dr. Frederick C. Simon, editor.

Social Hygiene Society Meeting.—At a meeting of the St. Louis Society of Sanitary and Moral Prophylaxis, held January 21, the following physicians were elected to office: president, Dr. George Homan; treasurer, Dr. Archer O'Reilly, and members of the executive committee, Drs. Francis L. Bishop, John Green, Jr., Carl J. Luyties, Walter H. Fuchs, Frederick K. Taussig and Bransford Lewis.

NEW YORK

New Society.—The Buffalo Society of Sanitary and Moral Prophylaxis has been organized, and the following officers have been elected: president, Dr. Lucien Howe; vice-president, George A. Lewis; secretary, Ada M. Gates; and treasurer, A. M. Cotton.

Judgment Against Milkmen.—The Supreme Court of Delhi is said to have rendered a judgment of $16,000 against Fishhandler and Abrams of New York for violating the pure milk law by shipping 836 cans of adulterated milk. This is one of the largest judgments ever secured for such a violation.

The Toll of Tuberculosis.—In connection with the tuberculosis exhibit at Ithaca, conducted by the New York State Department of Health and the State Charities' Association, Prof. Walter F. Wilcox, the Cornell statistician, placed the monetary loss to the State of New York from deaths by tuberculosis in 1910 at $64,000,000. He stated that one-ninth of the deaths in the state for last year were due to tuberculosis. Mr. Livingston Farrand, New York City, made a plea for more rural hospitals. Statistics gathered by the State Department for the last four years showed that the death-rate from tuberculosis is decreasing about three times as rapidly in the cities as in the rural districts.

Tuberculosis in Prisons.—Dr. Julius B. Ransom of Clinton prison, Dannemora, N. Y., in an address before the Society of Medical Jurisprudence at the New York Academy of Medicine, on Feb. 13, stated that from 40 to 60 per cent. of all deaths in the prisons of the world are due to tuberculosis and this percentage at times reaches 80 per cent. In this country more than one hundred thousand prisoners are annually discharged to the general community and more than 16 per cent. of these are infected with tuberculosis. Dr. Ransom gave statistics showing that of 46,129 prisoners in the Atlantic and middle west states only 125 are tuberculous, while of 4,624 in five southern states only 125 are tuberculous, and of the 8,540 in the western states only 118. This difference was due to the fact that in the South and West prisoners were put to work in the open air, whereas dust-raising industries in the eastern prisons were conducive to the increase of tuberculosis. Dr. Ransom urged the necessity for a systematic campaign for the treatment of the tuberculous inmates of prisons, jails and detention and charity institutions, advocating special institutions for treatment and the providing of outdoor work.

New York City

Hospitals for Measles.—A seven-story hospital, exclusively for the treatment of measles, with a capacity for 325 patients is to be built this summer at a cost of $275,000.

Bequests.—By the will of the late Mrs. Charlotte Garretson of New Hyde Park, L. I., Presbyterian Hospital is bequeathed $7,500 and the Flushing Hospital $10,000.——The will of Mrs. Caroline Lawrence leaves $20,000 to St. John's Hospital, Yonkers.

Milk Commission Asks Help.—The Medical Society of the County of New York has been appealed to by the Milk Commission to help the certified milk movement by recommending the use of certified milk in their practice. Accompanying the appeal is a description of the conditions under which certified milk is produced.

To Insane Hospital Instead of Penitentiary.—Dr. Ernest H. F. Pirkner, who conducted a so-called sanatorium in West Seventy-Ninth Street, and was recently indicted before the grand jury, tried and found guilty, and was about to have been sentenced to imprisonment in the penitentiary, became violently insane, and has been committed to the Morris Plains Hospital.

Personal.—Dr. Edward G. Janeway has been appointed head of the medical staff of the Presbyterian Hospital, vice Dr. W. Gilman Thompson.——Dr. Simon Flexner of the Rockefeller Institute for Medical Research will deliver the Harben Lectures of the Royal Institute of Public Health of London for 1912.——Dr. Fred J. Leviseur has been appointed consulting dermatologist to the Montefiore Home.

Lectures at Skin and Cancer Hospital.—The governors of the New York Skin and Cancer Hospital announce a course of lectures in the out-patient hall of the hospital every Wednesday afternoon, beginning on March 1 at 4:15 o'clock and continuing until April 26. Dr. L. Duncan Bulkley will deliver the first seven of these lectures and Dr. W. Seaman Bainbridge the last two. The subjects will be eczema, acne, psoriasis, syphilis and cancer.

City Provides Milk Stations.—The Sinking Fund Commission has provided for the distribution of pasteurized milk by the city at cost for the use of infants of poor families. Premises will be rented for the establishment of seven stations in Brooklyn, four in Manhattan and one in the Bronx. The city will employ six medical inspectors, ten nurses and fifteen assistants. The budget contains an item of $40,000 to defray the cost of this work.

The Practice of Midwifery.—At the meeting of the Section on Obstetrics and Gynecology of the New York Academy of Medicine, February 23, Dr. J. Clifton Edgar presented a preamble and resolution, which were unanimously adopted, setting forth that, as 50 per cent. of the births in the large cities of this country are attended by midwives; as the profession of midwifery in the United States is followed by ignorant, untrained and incompetent women; as some of the results of this practice are unnecessary blindness, mental and physical degeneracy and deaths of infants, and unnecessary suffering, invalidism and deaths of mothers; and, as although both physicians and nurses are given instructions in the training and care of childbearing women and new-born infants, provisions are made for the adequate training of midwives, the Section recommends that measures be taken in New York to secure new legislation which shall provide for the training, registration, licensure, supervision, regulation and control of women engaged in the practice of midwifery.

OREGON

Society Meetings.—Physicians of the county met recently at Wallowa Hospital, Wallowa, and organized the Wallowa County Medical Association, and elected the following officers: president, Dr. James H. Thompson, Joseph; vice-president, Dr. Clyde T. Hockett, Enterprise, and secretary-treasurer, Dr. Ralph M. Erwin, Joseph.——At a meeting of the Polk and Yamhill County Medical Association, held in McMinnville, Dr. Asa B. Starbuck was elected president, and Dr. Lenthal A. Bollman, secretary-treasurer, both of Dallas.

Medical College Gets Appropriation.—It is reported that the Oregon legislature has made a special appropriation of $30,000 for the Department of Medicine of the University of Oregon, to be expended for the improvement of the college building, laboratory equipment and current expenses. The regents of the university have made an additional appropriation from the general fund to cover the salaries of two full-time professors. These are Dr. David M. Roberg, who has been secured for the chair of anatomy, and Dr. John McLaren for the chair of physiology.

Personal.—Dr. Fred W. Vincent, Pendleton, who has been confined to the house on account of a fractured rib, is convalescent.——Drs. Eldred B. and Clara Waffle, Portland, started for Europe, January 17.——The office of superintendent of the Eastern Oregon Insane Asylum, which will not be ready to receive patients for a year and a half, and of which the incumbent was Dr. James D. Plamondon, Athena, has been declared vacant.——Dr. Herbert S. Nichols, Portland, has been appointed a member of the Oregon State Medical Board, vice the late Dr. Osmond Royal.——Following a hearing conducted by the Oregon State Board of Medical Examiners, Dr. William T. Eisen, Portland, charged with having procured an unlawful operation which resulted in the death of Mrs. Anna Foleen, the license of Dr. Eisen to practice medicine is said to have been revoked.

PENNSYLVANIA

Personal.—Dr. John B. Chapin, for many years chief of the Insane Department of the Pennsylvania Hospital, Philadelphia, has retired from active duty.

Gift to Tuberculosis League.—Henry Phipps, the first contributor to the Tuberculosis League of Pittsburg, has donated $25,000 to the league on the condition that $150,000 be raised by the members; $118,000 of this amount has already been secured, leaving a balance of only $32,000 to complete the amount.

Election.—At the meeting of the Pottsville Medical Society, February 9, the following officers were elected and installed: president, Dr. George R. S. Corson; vice-presidents, Drs. Merchant C. Householder and Thomas W. Swalm; secretary-treasurer, Dr. John J. Moore, and directors, Drs. George H. Boone, Patrick H. O'Hara and Joseph G. Kramer.

Philadelphia

Morgan Memorial Committee.—The proposed Dr. John Morgan Memorial at the University of Pennsylvania is in charge of Provost Edgar F. Smith, and Drs. S. Weir Mitchell, William Pepper, Jr., Clarence P. Franklin and Swithin Chandler, chairman.

Babies' Club Formed.—For the instruction of mothers in the care of infants and as a further prevention of infant mortality, the Public Health Committee of the Civic Club, has started a "Babies' Club" which meets weekly at the Southwark Neighborhood House. The lectures are really practical demonstrations by the nurse in charge and there is a room fitted up with everything necessary, weighing scales, bath tub and simple remedies.

Meeting Hall Referendum.—As a result of the recent postal referendum on the future place of meeting for the Philadelphia County Medical Society, it has been announced that there were 408 votes in favor of continuing the meetings at the College of Physicians and 197 favoring removal to a more centrally located hall. At the business meeting of the society held on January 18, it was finally settled in favor of the College of Physicians.

Fined in Measles Case.—Accused of having violated the health laws of the state, John L. Worshing, purchasing agent for the Huntingdon and Broad Top Railroad Co., is said to have pleaded guilty, February 2, and to have been fined $20 and costs. The charge against Mr. Worshing was that of removing his son, who was suffering with measles, from the Presbyterian Hospital to his home in Huntingdon before the period of incubation had passed, thereby exposing other passengers to contagion.

Hospital Inquiry Urged.—At the meeting of the Philadelphia County Medical Society on January 18, a resolution was adopted to investigate appropriations to hospitals not under state control. The resolution urges the governor to appoint a joint committee, consisting of three members of the senate, three members of the house, a member of the state board of charities, two licensed physicians, who are not connected with any institution receiving state aid, and a member of the bar, who has served as a manager of a hospital.

Personal.—Dr. George W. Mercher, chief resident physician of the Germantown Hospital is recovering from an operation for appendicitis.——Provost Edgar F. Smith, of the University of Pennsylvania, has been appointed a member of the college and university council in place of C. C. Harrison, resigned.——Dr. Adolph Feldstein, the first resident physician of the Jewish Hospital and for nearly fifty years one of the physicians to the institution, celebrated his seventieth birthday anniversary.——Drs. E. A. McLain and J. E. Murphy have been appointed physicians to the Insane Department of the Philadelphia General Hospital.

Popular Lectures on Tuberculosis.—The popular course of lectures at Logan Hall, University of Pennsylvania campus in charge of a committee of the faculty consisting of Dr. Charles K. Mills, chairman; Dr. Allen J. Smith, dean of the Medical School, and Dr. A. N. Richards, have been most successful. The lecture February 3, was "Tuberculosis from the Sociological Point of View" and one of its main points was that society must remove the ignorant and evil conditions which foster tuberculosis and that the campaign against it is one of education.

Annual Elections.—The following officers were elected for the year 1911 at the recent meeting of the Academy of Medicine: president, Dr. Robert G. LeConte; vice-presidents, Drs. Gwilym G. Davis and John H. Gibbon; treasurer, Dr. Edward B. Hodge; secretary, Dr. Charles F. Mitchell; recorder, Dr.

John H. Jopson, and councilors, Drs. Francis T. Stewart, Thomas R. Neilson and J. Chalmers DaCosta.——The following officers were elected by the Northeast Branch of the County Medical Society: Dr. J. Albert Bolin, chairman; Dr. Albert C. Buckley, clerk, and Dr. Frank Embery, associate vice-president.

SOUTH DAKOTA

Gift to Medical Library.—Dr. Frederick A. Spafford, Flandreau, and Dr. William E. Moore, Tyndall, have each presented to the library of the College of Medicine of the University of South Dakota more than one hundred volumes of medical books, journals and periodicals.

Election.—At the annual meeting of the Eighth District Medical Association, held in Yankton, Dr. Herman J. G. Koos, Scotland, was elected president; Dr. Nelgaard, Volin, vice-president; James Roane, Yankton, secretary-treasurer; and Dr. Silas M. Hohf, Yankton, delegate to the state society.——Watertown District Medical Society, at its annual meeting, elected Dr. Charles S. O'Toole, Vienna, president; Dr. Harry M. Freeburg, Watertown, vice-president; Dr. James B. Vaughn, Castlewood, secretary-treasurer; and Dr. William O. Leach, Carthage, censor.——The Fourth District Medical Society, at its annual meeting in Pierre, elected Dr. Charles M. Hollister, Pierre, president; Dr. Napoleon B. Gerhart, Pierre, vice-president; and Dr. Joseph M. Walsh, Fort Pierre, secretary-treasurer.——At the organization of Gregory County Medical Society, at Dallas, recently, Dr. Harry A. Murnan, Gregory, was elected president; Dr. Edwin B. Bradley, Burke, vice-president; and Dr. Thomas R. Castles, Dallas, secretary-treasurer.

TENNESSEE

Medical College Suspended.—It is reported that the Knoxville Medical College, colored, has been temporarily suspended. There was only one graduate in 1910.

Society Elections.—The Montgomery County Medical Society, at a meeting in Clarksville, February 10, elected the following officers: president, Dr. Frank J. Runyon; vice-president, Dr. George E. Vaughn, both of Clarksville, and secretary, Dr. Lucullus E. Webb, St. Bethlehem.——McNairy County Medical Society, at its annual meeting in Selmer, elected Dr. E. Garry Sanders, Stantonville, president; Dr. James L. Smith, Selmer, vice-president, and Dr. Benjamin C. Dodds, Gravelville, secretary-treasurer.

Improvements at Medical School.—Vanderbilt University has received a donation of $150,000 from the General Education Board as an addition to its general endowment and a like sum from Mr. W. K. Vanderbilt to be used for the medical department. These contributions have made possible the purchase of the campus of the Peabody Normal College which contains 16 acres of ground. On this campus are five or six buildings which are to be used for the medical and dental departments of the university. It is planned also to establish at once a university hospital of at least one hundred beds.

TEXAS

Recommends New Laboratory.—As the result of the inspection of the State Medical College, Galveston, by the subcommittee of the senate, a strong recommendation is made for the construction of a separate chemical laboratory as a necessary addition to the equipment of the institution.

Medical Society Meeting.—DeWitt County Medical Association held its annual meeting in Cuero, February 7, and elected Dr. George W. Allen, Yorktown, president; Dr. William D. Finney, Cuero, vice-president; Dr. Bronislaw J. Nowierski, Yorktown, secretary-treasurer; Dr. Robert Westphal, Yorktown, censor; Dr. W. R. Gillett, Cuero, delegate to the state medical association, and Dr. Harry H. Brown, Yoakum, alternate.

Cities to be Admitted to Census Bureau.—Although Texas as a state is not included in the death registration area of the United States, formed for the compilation and study of mortality statistics by the bureau, there are two cities, Galveston and San Antonio, which because of the effective local death registration ordinances, have been considered in the area of the bureau for the last four years. Owing to the activity of Dr. William M. Brumby, late state health officer, in promoting the extension of the registration area, many requests have been received from Texas cities which desire admission to the area and the chief statistician believes it probable that a number of them, in which the ordinances are thoroughly enforced, will be admitted to the area for the current year.

WISCONSIN

Society Meetings.—At the annual meeting of Brown County Medical Society, held in Depere, Dr. Richard C. Buchanan, Green Bay, was elected president; Dr. Felix Moraux, Luxembourg, vice-president; Dr. Thomas J. Oliver, Green Bay, secretary-treasurer; and Dr. Daniel H. Gregory, Depere, censor.——Langlade County Medical Society, at its annual meeting i Antigo, January 28, elected the following officers: president Dr. Michael J. Donohue (reelected); vice-president, Dr. Georg H. Williamson: secretary-treasurer and delegate to the stat medical society, Dr. John C. Wright, and censor, Dr. Ignatiu D. Steffen, all of Antigo.——At the twenty-fourth annua meeting of the Fox River Valley Medical Association, held i Menominee, Mich., February 7, Dr. Henry W. Abraham Appleton, Wis., was elected president; Drs. Benjamin T. Phillips, Menominee, Mich., and F. Gregory Connell, Oshkosh vice-presidents; and Dr. W. Weber Kelly, Green Bay, Wis. secretary-treasurer (reelected).

Proposed Legislation.—Dr. Cornelius A. Harper, Madison secretary of the State Board of Health and a member of th legislature, has set a good example to other legislators. H has declined to do professional work during the 100 days session of the legislature. He is about to introduce a bil providing for a state sanitary inspector whose duty it will b to travel through the state inspecting hotels, jails, schoo buildings, public buildings of all kinds, streets, alleys an other places to see if they are kept in sanitary condition The bill carries an appropriation of $3.500, one-half fo salary, and one-half for expenses of the office. The secon bill requires counties to make adequate provision for th care of advanced cases of tuberculosis. The state at presen cares for incipient cases, but the State Board of Health wishes counties to take care of their own advanced cases The third reform is the prohibition of the common drinkin cup in all public buildings throughout the state.

GENERAL AND FOREIGN NEWS

Probably Not Plague in Spokane.—The daily press of February 28, reported that Passed Assistant Surgeon Bolivar J Lloyd, U. S. P. H. and M.-H. Service, specially detailed fo this service, has decided that the deaths in Spokane, suppose to have been due to bubonic plague, were not due to tha disease but rather to a complication of influenza and pneumonia.

Cholera in Hawaii.—The Chion quarantine office, Honolul reported on February 25, four fatal cases of cholera amon Hawaiians. Two of these were in the Kewalo suburb of th city, and two at a point nearly a mile distant in the cit proper. On the following day two additional cases wer reported, with one death. All necessary precautions are bein taken by the Board of Health of Honolulu.

Conference on Education and Legislation.—As the Journa goes to press, the seventh annual conference of the America Medical Association on Medical Education and Medical Legislation is holding its opening session. The program was give in The Journal recently. An account will appear in thes columns later and the full report will be published in th *Bulletin of the American Medical Association.*

Meeting of the Association of Colleges.—At the meeting o the Association of American Medical Colleges in Chicag February 27 and 28, a number of amendments to the constitution were adopted, the principal one being in regard t the new curriculum for medical colleges and the raising of th entrance requirements to an unconditioned high-school certificate. Another amendment was the placing of the administration of the entrance requirements into the hands of prope educational authorities. The following officers were elected president, Dr. William P. Harlow, University of Colorad Boulder; vice-presidents, Drs. Henry A. Christian, Harvar Medical School, Boston, and Charles M. Hazen, Medical College of Virginia, Richmond; secretary-treasurer, Dr. Fred C Zapffe, Chicago (reelected), and judiciary council, Drs. William J. Means, Columbus, O.; Randolph Winslow, Baltimore Clarence M. Jackson, Columbia, Mo.; Charles R. Bardeen Madison, Wis.; Egbert LeFevre, New York City; James F Guthrie, Dubuque, Ia., and John A. Witherspoon, Nashvill Tenn. The next annual meeting will be held in Chicago.

Bureau for Distributing Bacterial Cultures.—The Departmen of Public Health at the American Museum of Natural Histor has equipped a laboratory to serve as a central bureau for th preservation and distribution of bacterial cultures of bot pathologic and non-pathologic organisms. It is hoped that th laboratories of medical schools, colleges, boards of health, agriculture experiment stations, and individuals engaged in bio chemic work will furnish the museum with cultures in their possession. Types of new species and varieties are particularly desired at present. The laboratory plans also to keep on file descriptions of bacterial species in print or arranged in the form of standard card, and will be grateful for copies of any such descriptions. Descriptions filed in the department will be carefully preserved and living cultures will be supplied at all times without charge to corresponding laboratories, and so far as possible, and with a reasonable charge, to schools and other institutions which may desire cultures. Pathogenic forms will be sent only to properly qualified persons. The headquarters of the department are at Seventy-Seventh Street and Central Park West, New York City.

Sanitary Association Meeting.—At the fourth annual meeting of the Lake Michigan Sanitary Association, held in Chicago, February 18, addresses were made by R. R. McCormick, formerly president of the sanitary district, in which he stated that the power to protect the waterways from pollution rests with the federal government; and that if the people of the states of Wisconsin, Illinois, Indiana and Michigan do not take proper action the government will forbid all communities to empty refuse into Lake Michigan or adjacent waterways. Surgeon George B. Young of the U. S. Public Health and Marine-Hospital Service, discussed legislation now pending in congress relative to sanitation; Dr. Mazyck P. Ravenel, of the University of Wisconsin, spoke on "The Water of Racine, Kenosha, and Milwaukee;" Frank A. Windes discussed the progress in the improvement of north shore sanitary conditions; Langdon Pearse, of the sanitary district, spoke on "Sewage Disposal"; J. Herbert Brewster, of the Indiana State Board of Health, made a report on the condition of the Calumet River from Gary to its mouth; and Health Commissioner, Dr. William A. Evans, Chicago, discussed sanitary conditions.

Good Sanitary Conditions in Havana.—The *Revista de Med. y Cirugia* of Havana publishes an open letter from Dr. J. Guiteras, chief of the public health service of the island, protesting against certain statements that appeared in the *Boston Transcript* and were copied in the *Army and Navy Journal*, Oct. 10, 1910, to the effect that Cuba was dropping back into her old apathy in respect to sanitary matters. He deplores the fact that every year at the opening of the tourist season some paper in the United States makes some such statement and that it is copied from one to the other until it seems important enough to be reproduced by some standard periodical which does not take the trouble to verify its accuracy. On the contrary, Guiteras states in 1909 there were only forty-five deaths from typhoid at Havana, with a population of 300,000, and thirty-eight in the first eleven months of 1910; there has been no mortality from yellow fever for years; from tuberculosis it has been only 13.07 per 10,000 inhabitants, and the infant mortality has constantly declined, dropping from 196 in 1900 to 171 for each 1,000 births, while in the entire island it is only 116. The deaths from malaria have dropped from 19 in 1908 to 6 in 1909, and the general mortality of the island now is only 13 per 1,000. The republic goes to great expense throughout the island to keep up the mosquito campaign, but in 3,056,118 houses examined only 6,238 actual breeding-places were discovered.

Proposed Organization of the Profession in Cuba.—The Cuban Academia de Ciencias Medicas, Fisicas y Naturales, located at Havana, recently sent out an appeal signed by its president, Professor J. Santos Fernandez, to all the medical men of the island inviting them to a national gathering to discuss ways and means for organizing the profession to protect its material and other interests. At the meeting resolutions were adopted to have a petition drawn up to be presented to the national legislature asking for compulsory organization of the registered physicians of the country, regulation of the illegal practice of medicine, establishment of a minimum salary for medical state officials, with an increase of 10 per cent. for each five years of service, correction of hospital abuse by those able to pay, contract practice restricted to 500 policy-holders to one medical officer, etc. In the discussion of the subject one speaker cited the universal dissatisfaction with conditions in regard to contract practice in France, England, Germany and Spain, where the medical men have finally had to organize to protect themselves against further exploitation by outside interests. In Belgium, he added, the physicians have triumphed over these evil conditions, thanks to the union of their common interests in concerted action. The idea of organization in Cuba being made compulsory is combated by other physicians, the opposition being so wide-spread that it will probably cause the whole matter of organization of the profession in Cuba to be tabled for the present, although the leaven of the need for organization is surely working.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, Jan. 14, 1911.

Health and Sanitation in Indo-China

During a Christmas vacation just ended, I made a trip to Indo-China and while there visited some of the hospitals and inquired into the general health of the country and the sanitary measures in vogue. Indo-China is a French possession and the stronghold of the French in the far East. It is located south of the Canton district of the Chinese Empire and east of Siam and the Malay peninsula. The country has been under the control of France for about sixty years. During this time many improvements have been made and the country has many of the landmarks of western civilization. The roads are excellent and most of even the smaller towns are supplied with the best available water and possess underground sewage systems. Many of the latter improvements, however, are doubtless for the convenience and health of the government functionaries, most of whom are French. One quickly gathers the impression that the native gets far less consideration in Indo-China than in the Philippines. House servants get from $4 to $8 (Mex.) (about $1.80 to $3.60 U. S. standard) per month and the great mass of the rice-field laborers who make up by far the majority of the population are still permitted to live in the dingy little nipa shacks which usually are found in groups in a filthy swamp. In many respects Indo-China resembles the Philippines, both in climate and in topography.

The principal diseases of the former are said to be dysentery, skin diseases and malaria. Dysentery is quite prevalent and is often very severe on the European. It is asserted that bacillary dysentery is not found in the country, but the quickness with which people sometimes die with dysentery there would tend to make one a little skeptical. Cases often terminate fatally in one to four days. A source of a great deal of the dysentery, especially among the Europeans, is from fresh vegetables, both those from the local market and those imported from China. In either case they are grown by Chinese, and the Chinaman's system of gardening is not a particularly sanitary one. Human and animal excreta are collected in a cesspool or well and the whole mass of excreta and water is churned up into a fine emulsion. Each evening the truck garden is sprinkled from this pool. Thus fertilization and irrigation are accomplished at the same time and the vegetables thrive. This kind of vegetable naturally has a tendency to produce more fertilizer and the "heathen Chinee" profits additionally. As might be expected when vegetables of this kind are not well sterilized, there results serious infection with various microorganisms. This is probably the source of most of the dysentery among Europeans in Indo-China.

In the tropics, green vegetables, lettuce, tomatoes, etc., are especially palatable and one is tempted to eat them even when one has no assurance that they have been properly prepared.

Liver abscesses are quite common among the soldiers of Indo-China. At the hospital in Saigon there are several cases (four to ten) for operation each week. The Public Health Reports show a few cases of bubonic plague and cholera each week, but they seldom become epidemic. Yaws is said to be practically unknown in Indo-China, and leprosy occurs less frequently there than in the Philippine Islands. In regard to the occurrence of yellow fever, I was told that it was believed not to exist or at least is of very rare occurrence in recent years, but that when the French were attempting to dig the Panama Canal, it was always a source of anxiety and that cases appeared from time to time.

Major E. R. Whitmore, who has made a more extended tour of French Indo-China and a more complete inquiry into the medical problems of that country, has reported his observations to the Manila Medical Society for comparison with those of the Philippines. Among his notes are the following:

"The director of health is an army medical officer as well as the subdirectors. The army medical officers also furnish the quarantine service, such as boarding ships, etc., and do most of the teaching in the Medical School of French Indo-China at Hanoi. The manufacture of opium is a government monopoly and apparently there is no great restriction on the sale of the drug.

"The military hospitals are large permanent structures of brick, concrete and steel. In connection with the military hospitals at Hanoi is the Antirabic and Bacteriologic Institute of Hanoi. Drs. Mathis and Leger (majors of the colonial service) have done a great deal of work and have published freely on the diseases in Tonkin due to animal parasites. They have worked on the diseases around Hanoi and have charted the various diseases in that part of Tonkin down to Haiphong and for some distance north and south on the coast.

"They have found that infection with *Filaria nocturna* is very frequent among the natives in north Indo-China and especially in Hanoi and Haiphong.

"Relapsing fever has been epidemic in Tonkin during the years 1907, 1908, 1909. It is especially prevalent in the delta of the Red River around Haiphong.

"Malaria is prevalent in Tonkin and the endemic index has been worked out to some extent. The endemic index (2 per cent. of apparently healthy children from 1 month to 5 years old found infected) runs according to the locality from 2.98 to 40.00 with an average of 7.33. It is interesting to note that their findings show that a large per cent. of the infections in children under 1 year are tertians, while quartans and subtertians are not nearly so numerous. But as the age of the child increases the proportions of quartan and subtertian infections increase as the tertians fall. However, they point out that their figures are still too small to base any conclusions on them.

"In connection with their work on malaria they have worked on the mosquitoes in Tonkin; six species of anophelines have been found in Tonkin, three in Hanoi.

"Infection with the Chinese liver-fluke is very common among the natives in north Indo-China and increases with age. Varying with the place, from a quarter to a half of the natives are infected with this fluke.

"They have studied the intestinal parasites of man in Tonkin and find infection about as common and with the same parasites as in the Philippines. Of a thousand natives examined, every one had at least one intestinal parasite, and the 1,000 had 2,289 infections.

"Intestinal amebiasis is very prevalent among the Europeans in French Indo-China. In the wards of the Military Hospital in Saigon they average about forty cases of it, and about eighty cases pass through the hospital every month.

"I saw three cases of sprue in Saigon and was informed that it was not very uncommon there, while the doctors in Hanoi told me that they do not have any sprue in Hanoi.

"Rabies is wide-spread among the animals, especially dogs, and the two institutes in Saigon and Hanoi have constantly from seven to thirty persons undergoing protective inoculations. Beside the rabies work, the Pasteur Institute at Saigon prepares vaccine virus and undertakes the study of material from infectious diseases, as plague, cholera, typhoid; of which diseases there are usually a few cases.

"At Nha Trang the anti-rinderpest serum is prepared, but all other serums (antidiphtheritic, etc.) are sent out from Paris.

"I was especially struck by the difference in the animal parasites found in the natives in Indo-China and what has been found in the Philippines. This is all the more striking when we remember that in Tonkin (in about the same latitude as Luzon), relapsing fever is epidemic, and infection with the liver-fluke is very prevalent. Relapsing fever has not been found in the Philippines, except an occasional imported case, and the liver-fluke is found only in Chinese who have probably brought it in with them.

"Similar conditions seem to hold good for parasites of lower animals, though this has not been worked on as much here as there, and save for the trypanosomes of rats and bats (which seem to be infected everywhere) little is known of the parasites of the lower animals in the Philippines.

"A hematozoon is found rather commonly in monkeys there, while D. Teague has examined a large number of monkeys here without finding a hematozoon and I think no one has ever found a hematozoon in monkeys here.

"I have examined the blood of doves, snipe and ducks without finding a leukocytozoon, while doves are commonly infected with a leukocytozoon there.

"But possibly when more work has been done on the animal parasites of man and the lower animals in the Philippines, we shall find that French Indo-China has not so many more animal parasites than we have."

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 14, 1911.

The Lowest Birth-Rate and Death-Rate on Record

The continuous fall of the birth-rate in recent years is once more shown by the lowest birth-rate on record. The figures for 1910 have just been issued; the births numbered 897,100 and the deaths 483,321, the natural increase of population thus being 413,779. The average annual increase in the past five years was 404,656. The birth-rate was at the rate 24.8 per 1,000 of the population, which is 0.8 below the rate of 1909, and lower than any rate on record. Compared with the average of the decade 1900-1909 the birth-rate in 1910 showed a decrease of 2.7. The death-rate in 1910 was 13.4 per 1,000, which was 1.1 below the rate of 1909 and, again, the lowest record. Compared with the average of the decade 1900-1909, the rate in 1910 showed a decrease of 2.4. The deaths included 10,609 from diarrhea, 8,574 from whooping-cough, 8,172 from measles, 4,177 from diphtheria, 2,337 from scarlet fever, 1,848 from typhoid, and 19 from small-pox. Thus 35,736 deaths were due to these epidemic diseases, a rate of 0.99 per 1,000, against 1.28, 1.34 and 1.13 in the three previous years. The deaths of infants under one year of age was 106 per 1,000 births, which is three below the rate of 1909 and the lowest on record.

The Value of Heredity

At the Authors' Club Dr. G. Archdall Reid, the author of "The Principles and Laws of Heredity," opened a discussion on this subject. He said in part: Everyone believes in evolution, which implies adaptation to the environment; degeneration implies the contrary. All plants and animals are adaptional forms. Man and the beetle can live in their own environment but not in that of each other. The right theory of evolution, and the right theory of heredity must fit in with this fact of adaptation. Only one theory of heredity fits the facts—Darwin's theory of natural selection. Selection implies a selective mortality, that the fittest survive and the unfittest perish as a general rule. Many people die young because they are weak against various microbic diseases. Each disease weeds out in its own habitat the unfittest. One other source of elimination is alcohol to which people vary in susceptibility. If the ill conditions which affect the parent do not as a general rule tend to alter offspring then since the offspring does vary spontaneously the fit will be preserved and the unfit will be weeded out and the race undergo protective evolution. A very unhealthy condition is found in the slums of great cities which show unhealthy parents and puny children. Since the fit will survive the race will become more resistant to slums. The races most exposed to slum life are Jews and Chinese. These races have not grown degenerate but have undergone protective evolution. The races longest exposed to consumption are most resistant to it. Offspring is not rendered degenerate by the misfortune of the parents but races undergo evolution owing to the fire to which they have been exposed. Suffering does not affect a race; but the deaths of the race do. By means of these deaths the foundations of the empire are laid. Disease has created a void which the British have filled in Australia and New Zealand.

Typhoid and Water Storage

Dr. A. C. Houston, bacteriologist to the Metropolitan Water Board, has issued an important report on the vitality of typhoid bacilli in stored water, and with that of cultivated as opposed to uncultivated bacilli. Bacilli derived from a typhoid carrier and bacilli cultivated in the laboratory are added in similar proportions to samples of river water in a carefully conducted and protected series of experiments. Both varieties proved to be incapable of sustaining an independent existence during storage and perished within definite limitations of time, Dr. Houston concludes that even a week's storage of raw river water is an enormous protection and less than a month's storage an absolute protection against typhoid, and that it is in the power of the board by adequate storage to render the supplies drawn from rivers, however originally polluted, perfectly safe before filtration.

The Overcrowded Medical Curriculum

The progress of medical science renders increasingly difficult the teaching of the medical student all the subjects which it is tuought he should master before he is allowed to practice. Some years ago, the time for the completion of medical studies was increased from four to five years, but the longer period has still proved too short and only a minority of students complete their curriculum in that period, six and one-half or seven years being usually required. The subject has engaged the attention of the General Medical Council (the body appointed by the government to supervise medical education and exercise discipline over the profession) but no solution of the difficulty has yet been found. A committee was appointed to consider the place in the student's career which the preliminary sciences should occupy and to frame and submit to the council a pattern scheme of medical education, whereby the required minimum of the several subjects to be included in the curriculum could be adequately studied, and the requisite examinations thereon be passed within the period prescribed by the curriculum. The committee has declared itself unable to suggest any remedy for the congestion of the medical curriculum. To meet the difficulty, Sir Henry Morris, a member of the council, proposes that the preliminary scientific studies, such as chemistry, physics, botany and zoology, which now form part of the curriculum, should be removed from it and pursued by the students in the schools, leaving the five years of the curriculum free for the strictly professional subjects, anatomy, physiology, medicine, etc. The council, on the other hand, holds that as the supreme authority in medical education it cannot sanction any part of the medical education being undertaken except under its control. This objection seems captious and unreasonable. The greater part of the education of the student before he enters medicine is necessarily outside the control of the council and adding to it chemistry, physics, etc., involves no question of principle. By means of a preliminary examination the council could easily insist on an adequate knowledge of these subjects before the beginning of the medical curriculum.

Infectious Diseases in London in 1910

The returns just published of the Metropolitan Asylums Board (which controls all the fever hospitals of London) shows several facts of interest. During 1910, 15.053 patients with the most important of the infectious diseases were admitted to the hospitals. These diseases were as follows; scarlet fever, 9,682 cases; diphtheria, 4,698; typhoid fever, 673. Two hundred and six deaths from scarlet fever occurred, being a case-mortality of 2 per cent. This number is less than half the average annual number of the preceding nine years, and lower than that in any year for which statistics exist. There were 360 deaths from diphtheria in the hospitals, a case-mortality of 8 per cent. The total deaths from diphtheria in London during the year were 434. In the three preceding years the deaths numbered 781, 724 and 605 respectively, showing a steady decline which reached its maximum last year. The deaths from typhoid fever in the hospitals numbered 126, a mortality of 19.5 per cent. The total number of deaths in London was 198,107, below the average in the nine preceding years, but an increase of fifty-two on the unprecedently low number of 1909. Thus the mortality of scarlet fever in the metropolis has shown in recent years a continuous decline, the disease being evidently of a milder type. On the other hand the case-mortality of diphtheria and typhoid shows no such decline.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, Feb. 10, 1911.

Radiography as a Means of Ascertaining Whether or not an Infant has Lived

The means of medicolegal investigation to ascertain if a child has lived or not have hitherto been much restricted and have offered no absolute certainty. It appears from the researches which Dr. C. Vaillant has reported to the Académie des sciences that radiography offers a means of determining this point. If the fetus has not lived, no organ is visible, even if radiography is practiced after the eighth day in summer and the fifteenth day in winter. Later on, in frozen subjects, the whole arterial and venous system becomes visible on the negative, because putrefaction begins in the organs which functionate during intra-uterine life. On the other hand, in the bodies of infants which have lived, all the organs are visible if radiography is used as late as the tenth day after death. The only perceptible modification is produced by the augmentation of gas in the abdominal organs. There is no room for error in the interpretation of the results of radiography, whether it is used immediately after birth or later, since in either case the results are different in the case of an infant which has lived from those in a fetus which has not lived.

Relapses and Complications After Injections of Salvarsan

On February 2, before the Société française de dermatologie et de syphiligraphie, Dr. Bodin reported the case of a patient with precocious malignant syphilids which were intractable to treatment with mercury and iodids, but which were cured within fifteen days after an injection of 55 cg. of salvarsan. A month afterward, however, the patient had a relapse which yielded to a new injection of salvarsan, relapsing a second time at the end of forty-six days.

Moreover, Professor Gaucher and Dr. Gougerot observed complications following immediately after injections of salvarsan (two cases of pulmonary embolism with sharp pain, and respiratory difficulty a few minutes after the injection, continuing for several hours), and later complications (two cases of phlegmasia alba dolens) appearing four or five days after the injection.

The Reform of Medical Instruction

The Association corporative des étudiants en médecine has just decided to demand: (1) the limitation of *stagiaires* to the number of twelve for each hospital service, which necessitates the extension of the *stage* to a greater number of services; (2) the creation of a superior medical council, composed in part of the professors of the Faculté, and in part of the delegates of the medical *syndicats*, with consultative voice for the corporative associations of medical students.

Moreover, considering that the organization of professional instruction demands a more complete reform of the hospital *stage*, the association demands an investigation looking toward the modification of the externship by which it should become a function open to all students by an examination and not by a *concours* as is the case at present. The association believes that all medical students should exercise this function for at least two years to obtain the diploma of doctor of medicine.

The Laborie Prize

The Société de chirurgie has divided the Laborie prize for 1910 as follows: $400 (2,000 francs) to Dr. Paul Sourdat of Paris for his radiographic study of tuberculosis of the bones and articulations, coxalgia and white swelling of the knee; $160 (800 francs) to Drs. Jules and André Boeckel of Strasburg for their study of the fractures of the spine without medullary symptoms; $100 (500 francs) to Dr. Guibé of Paris for his paper on the paralysis of the suprascapular nerve.

Personal

Dr. A. Kelsch, former *médecin inspecteur* of the service of military hygiene and member of the Académie de médecine has just died. After holding professorships in various French medical schools, he was appointed to the military hospital of Algeria, but was recalled to Paris two years later as professor of epidemiology at the Ecole d'application du service de santé militaire du Val-de-Grâce. In Algeria he accumulated much material on paludism, dysentery, liver abscesses, etc., which he utilized in the treatise on the diseases of warm countries, by himself and Kiener. He was the author also of a treatise on epidemic diseases in several volumes and numerous papers on epidemiology and hygiene presented before the Académie de médecine.

Dr. Claude Martin of Lyons, who had acquired great reputation in the practice of prosthesis of the face and mouth, has recently died. He was connected with the Hôtel-Dieu de Lyon, and was one of the most valued collaborators of Professor Ollier in all the procedures on the face which required the use of prosthesis appliances. He was appointed in 1908, national correspondent of the Académie de médecine de Paris.

Dr. William J. Mayo, of Rochester, Minn., is one of the foreign correspondents recently elected by the Société de chirurgie de Paris.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, Feb. 10, 1911.

Personal

The noted Berlin physiologist, Prof. H. Munk, has been given the honorary title of doctor by the veterinary school.

R. Stern, director of the medical policlinic and head physician of All Saints Hospital at Breslau, died Feb. 1, of influenza, aged 45. In 1892 he joined the faculty as privat-docent. His work lay mostly in the field of experimental pathology, but he was chiefly known by his treatise on "The Traumatic Origin of Internal Diseases," which for the first time systematically set forth the importance of trauma in internal pathology. The book had a wide circulation. A few years ago some interest was aroused by the fact that Stern accepted a call as director of the internal medicine clinic at Greifswald and later declined it without special reason. At one time there was a rumor of mental aberration. He traveled for some months, but later resumed his work at Breslau, and at the last meeting of the scientific association at Königsberg he delivered a fine address on a bacteriologic theme.

The Journey of the Crown Prince Interrupted by the Plague

In consequence of the extremely severe outbreak of the plague in eastern Asia, the German Crown Prince has abandoned his tour of the world and will begin the return journey at Calcutta. As the wide extent of the plague in northern China precludes the return by the trans-Siberian railway, he will come back by way of the Red Sea. Terrible reports are made in the newspapers regarding the daily spread of the disease in China. Probably the reports are exaggerated, and it is to be assumed that the epidemic had begun before the Chinese authorities permitted reports of it. According to statements made in the Reichstag by a representative of the imperial naval office, Tsingtau, a city lying in the German protected area, is threatened by the plague. As a result the city is isolated on the land side by a military cordon, the railroad is interrupted at Syfang, all persons remaining in the city are kept under strict surveillance, and all ships are subjected to quarantine. The military surgeons who have recently been discharged and were about to return to Germany will remain in Tsingtau. The Chinese government has requested the German government to send European physicians to the region infected with plague. Russia has suggested an international commission to investigate the conditions of the epidemic on the spot. As a precautionary measure our imperial health council will take up the question how far Germany itself is threatened by the plague, and formulate measures of protection at the proper time.

The Campaign Against Lupus

The department of education recently notified all school principals of the danger of lupus and the necessity for its early recognition and proper treatment. It also warned the medical inspectors of schools to pay especial attention to lupus cases and report to the school director any found.

Instruction of Soldiers on Tuberculosis

In a suburb of Berlin, Wilmersdorf, a tuberculosis exhibition was installed a few weeks ago by the municipal authorities to educate the public. Statistics on the spread of tuberculosis, anatomical preparations and directions for the repression and prevention of tuberculosis, are shown, and lectures on these subjects are held together with other matters of the same sort. Lately more than 100 under-officers of the Berlin garrison have been conducted through the exposition daily by military surgeons and instructed with reference to the significance of the individual objects on exhibition.

Presidency of the Berlin Medical Society

At a session held for the purpose a few days ago, Senator declined a reelection as first president on account of his advanced age. As Senator has lately been failing in energy the society accepted his resignation and selected Professor Orth, the director of the pathological institute, in his place. Professor Kraus, director of the second medical clinic, was elected as one of the three vice-presidents in the place of Orth.

International Prize Competition of the Red Cross

In 1902 the Empress Maria Feodorowna, protectress of the Russian Red Cross, established the "Empress Maria-Feodorowna Foundation," a fund for the purpose of promoting new inventions which are intended to relieve the suffering of the wounded and sick on fields of battle. The income from the capital is to be distributed every five years on the occasion of the International Red Cross Conference. This was done first at the seventh conference in London, 1907. For Germany at that time the Doecker's barrack system and the Linxweiler system of transportation were each rewarded with a premium of $1,500 (3,000 rubles). The next competition occurs at the international conference in Washington, 1912. The income accumulated for distribution amounts now to about $10,000 (40,000 marks). The German member of the jury of awards is Professor Pannwitz of Charlottenburg.

International Scientific Research Trip to the Canary Islands

A scientific study trip to Teneriffe will occur in March and April of this year. In the spring of 1910, at the suggestion of Professor Pannwitz, president of the international commission for investigation of altitude and sunlight, a scientific expedition to the mountainous region of Teneriffe was undertaken, in which under the direction of Professor Zuntz, German, Austrian and English physiologists as well as the astronomer Mascart, of Paris, and Professor Müller of Potsdam, took part. Further investigations on the action of light in those especially illuminated regions are to be undertaken, for which German, Russian and Danish investigators have promised their cooperation.

Complete Edition of the Works of Robert Koch

At the request of the heirs of Robert Koch, that is, his second wife and the daughter of his first wife, a complete edition of the works of this gifted bacteriologist will be published by Professor Schwalbe with the cooperation of Professor Gaffky, director of the institute for infectious diseases, and Professor Pfuhl, Koch's son-in-law. In particular, the different articles scattered in various journals and now difficult of access are to be collected. In addition to the articles already published, suitable material selected from the numerous reports that Robert Koch made for the government authorities will be published for the first time. It is expected that the work, which is appearing under the care of the well-known publisher, Georg Thieme of Leipsic, will be completed by the end of the year.

Increase in Fees for Foreign Students at the Prussian Universities

For some years the demand has been made in the Prussian parliament (Landtag), as I have previously informed you, to raise the matriculation and tuition fees for foreigners in the universities and technical high schools. The authorities have hitherto been opposed to this, principally because they feared that similar restrictions would be imposed against German students in the foreign universities. Now, inasmuch as the home students are being crowded out sometimes by foreigners, the authorities have yielded so far that they have imposed for the summer semester of 1911 a double fee on foreigners for laboratory work and attendance on lectures. For students of the natural sciences and medicine this amounts to an increase of $2.50 (10 marks) and for other departments $1.25 (5 marks).

The Death-Rate in Relation to the Standard of Civilization

Dr. Prinzing, the medical statistician of Ulm, published in the last number of the *Archiv für Rassen- und Gesellschaftsbiologie* a very interesting study of the development of civilization from the standpoint of the death-rate. He states that the high infant mortality in countries with a low state of civilization is probably chiefly attributable to the great prevalence of acute infections. Among adults the mortality of males in the more highly civilized countries approaches that in the less civilized because of the unfavorable influences of industry and of the abuse of alcohol, while the mortality of the female sex is greater among the less civilized because of their lack of protection and the excessive demands made on their productiveness. In civilized countries old age is characterized by a higher mortality because in these countries the working power of old men very frequently cannot be sufficiently utilized. It might be assumed that the slight difference in the death-rate in the adult period depends on the fact that by the high mortality of children in the less civilized countries, the weaklings are eliminated and only the most resistant remain. But the death-rate of the first year of life must be viewed apart because, for example, in spite of their slight infant mortality, Servia and Bulgaria show the same death-rate as Hungary and Russia, with their high infant death-rate. Also the numerous deaths in later childhood in these countries can have only a small influence on the question as very many of them are caused by infectious diseases and their results, in which cases the mortality depends less on hereditary resistance than on the occurrence and virulence of the infection.

We cannot assume that those predisposed to tuberculosis are early eliminated by the great infant mortality in eastern Europe and that by this means the mortality of adults is diminished; for the mortality from tuberculosis is greater in these countries than in western Europe. Furthermore we have seen that the slight difference in mortality of adult males in eastern and western Europe depends not on an especially low mortality in the east, but on an increase in the mortality in the civilized countries by the factors above named. Still it would be incorrect to deny that the high infant mortality of eastern Europe has any influence on the less unfavorable mortality of adults. In a number of infectious diseases (e. g., small-pox, measles, scarlet fever, typhoid fever) immunity is induced by a single experience of the disease, so that many persons are protected in later life by having had these diseases in childhood, although on the other hand, these children's diseases cause many deaths. If the children in these countries could be protected by any measures against infections, they would in later life fall victims to these diseases in increased measure, under the ordinary conditions of adult life. Here we have to do with an acquired peculiarity. Opinions differ as to whether there is a congenital hereditary immunity; at any rate, it is very rare in case of diseases like small-pox and typhoid fever. In respect to certain diseases the adult civilized man does not need to acquire an immunity, which is secured only with such great sacrifice of human life, for he knows how to protect himself in a simpler way, by vaccination against small-pox, by general hygienic measures against typhoid fever and similar diseases, and by early isolation of patients or by avoiding them himself in case of other diseases. If a Servian or Russian family wishes to have three children who shall reach at least the age of 14, there must be five or six born in this family, whereas in an English family only four births would be necessary for the same purpose. This is without doubt of great value for the latter nation, as every birth means danger to the life of the mother, necessitates temporary inability to work and the trouble and expense attending the rearing and death of young children. It is not very probable that by the selection of four instead of five or six children, the likelihood of preserving lives of inferior value is markedly increased, for in civilized countries, in the majority of the population, that is, the working classes, the preservation of doubtful lives is rare. In this respect from an economic point of view there can be no doubt that the death-rate which is common in the more highly civilized countries, consisting of a low mortality before the age of 35, constitutes a great gain for these nations.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Feb. 14, 1911.

An Excursion of the American Medical Association of Vienna

The American Medical Association of Vienna has been mentioned several times in previous letters in THE JOURNAL. It has at present a fully recognized position among the medical associations of this city, and is held in high esteem by its Austrian confrères. Recently, the association was invited to visit the Leuwering, a favorite health resort, about 80 miles south of Vienna, where splendid accommodations for health-seeking patients were erected a short time ago. The American physicians—a party of about eighty—were led through the two hydrotherapeutic establishments situated some 3,000 feet above sea level, and were shown the various electric and other physical equipments there. The local magistrates and the medical men of the district were unanimous in declaring that the visit of the foreign physicians was regarded as very flattering, while on the other hand, the invitation shows what a position the American association has attained here, for this kind of excursion is not very frequent in this country.

A Students' Strike in Cracow

The appointment of a reactionary professor of philosophy named Zimmermann in the University of Cracow has led to serious consequences in hospitals of that city. The majority of the students there belong to the liberal or anticlerical party. They remonstrated against the professor, and as the appointment was not cancelled, riots and other disturbances followed. Medical students took the lead in these demonstrations. It seems to be the privilege of medical students, at least in this country, to be always at the head in the defense of the liberty of teaching. A number of students were suspended for at least one term, while others were excluded permanently. These severe measures produced a general strike at the university, and since numerous medical students of the higher classes or near graduation were busy in the hospitals, they too had to strike. This serious condition has been prevailing for some time, and the senate of the university has been forced to reconsider its decision; the lack of students is felt keenly in the wards and the radical mind of medical thinkers seems to be predominant in students' circles. They will not give in before the "disease," the reactionary experiment, has been eradicated.

Titles for Practitioners

It is intended to grant certain titles to distinguish medical men not holding hospital or similar appointments in this country. The titles are to be "Medicinalrath" and "Ober-Medicinalrath," which mean in fact nothing but sound imposing. In several medical corporations an energetic movement has been set on foot to prevent the passing of such a bill by the board of health, within whose jurisdiction this matter falls. The possession of such a title would, in the opinion of those who oppose the idea, give an unfair advantage to these men, for our public is very fond of titles and believes that a title is equivalent to better knowledge. Hence the title of "privat-docent" for instance, is much coveted by physicians here. We have already many titled doctors. In Vienna alone, over 20 per cent. of the total have the title of "Professor," "Docent" or "Assistant," and in the country titles mean even more, being less common. It is therefore likely that the opposition will carry the day.

Death of Professor von Braun

The Nestor of the gynecologists of this city, Professor von Braun, died after a short illness a few days ago. He was the last one of the old Vienna medical school, which counted Skoda, Rokitansky, Billroth, Kaposi and Nothnagel among its members. Professor Braun was the first teacher of midwives in this country, and his earnestness, dexterity and sagacity soon gained for him a leading position and an enormous private practice in the highest circles. He found time for useful scientific work and published writings on extra-uterine pregnancy; the fetal malformations; the anatomy of the pelvis, and obstetric surgery. His death at the ripe age of 82 came as a shock to his numerous friends.

Marriages

REUBEN FRANK DAVIS, M.D., to Miss Bessie Lee Leckey, both of Glasgow, Va., February 15.

GEORGIANA MARGARET DVORAK, M.D., and John Joseph Theobald, both of Chicago, Oct. 29, 1910.

HARVEY WASHINGTON WILEY, M.D., Washington, D. C., to Miss Anna Campbell Kelton, February 27.

FREDERICK WILLIAM MAYER, M.D., Indianapolis, to Miss Margaret Welch, at Indianapolis, February 8.

DAVID WAYNE FOSLER, M.D., Indianapolis, to Miss Katherine Krauss Vonnegut, at Indianapolis, February 28.

ALBERT JULIUS GEIGER, M.D., U. S. Navy, to Miss Margaretta Benners Ashbridge of Philadelphia, February 15.

JOHN WATKINS WILLIAMS, M.D., Everetts, N. C., to Miss Bertie Zenobia Gardner of Williamston, N. C., January 18.

JONATHAN D. HINSHAW, M.D., Canon City, Colo., to Miss Elizabeth Love of Silver Cliff, Colo., at Canon City, February 8.

ORVILLE E. SPURGEON, M.D., Muncie, Ind., to Miss Ella Maria Worley of Washington Court House, O., at Muncie, January 18.

Deaths

Aloysius Oliver Joseph Kelly, pathologist, and diagnostician, editor of the *American Journal of the Medical Sciences*, died at his home in Philadelphia, February 23, from complications following an attack of influenza, aged 41. He was a native of Philadelphia, received the baccalaureate degree in arts in 1888, and three years later the degree of M. A. in LaSalle College. He graduated from the Medical Department of the University of Pennsylvania, Philadelphia, in 1891, and for two years did postgraduate work in London, Dublin and Vienna, where he devoted special attention to pathology and internal medicine. He was associate professor of medicine in his alma mater; professor of the theory and practice of medicine in the University of Vermont, College of Medicine; and professor of pathology in the Woman's Medical College of Pennsylvania, Philadelphia. He was a member of the American Medical Association, Association of American Physicians, and American Association of Pathologists and Bacteriologists; a fellow of the College of Physicians of Philadelphia, and of the American Academy of Medicine. He was visiting physician to St. Agnes and University Hospitals, and pathologist to the German Hospital. His literary work included a text-book on the practice of medicine, published in 1910; the joint editorship, with Dr. John H. Musser, of an extensive system of therapeutics; and, as stated above, he was for several years editor of the *American Journal of the Medical Sciences*. Dr. Kelly's death deprives the medical profession of one of its most promising pathologists and internists.

Edward Strong Bogert, M.D. Rear Admiral U. S. Navy, retired, died at the home of his daughter in New York City, February 16, aged 74. Dr. Bogert entered the Navy in June, 1861, served through the Civil War, and was on duty with Farragut's Squadron at the capture of New Orleans and the campaign of the Mississippi River; he was promoted to medical director, and was retired May 7, 1898. He was a graduate of the New York University Medical College in 1860, and a member of the Society of Bellevue Hospital Alumni.

William Henry McDonald, M.D. Bellevue Hospital Medical College, 1871; a member of the Colorado State Medical Society; a veteran of the Civil War, in which he served in both the Army and Navy; for twenty-four years resident physician at Pueblo for the American Smelting and Mining

Company, and surgeon for the Missouri Pacific and Santa Fe systems; died at his home in Pueblo, February 3, from chronic interstitial nephritis, aged 64.

George W. Osborne, M.D. Columbus (O.) Medical College, 1883; a member of the Ohio State Medical Association; died at his home in Dry Run, February 19, from paralysis, aged 58.

Charles Hamlin Phelps, M.D. Medical College of Ohio, Cincinnati, 1876; a member of the Ohio State Medical Association; president of the St. Mary's Board of Education; died suddenly at that place, February 21, aged 68.

Franklin J. Foster, M.D. Georgetown University, Washington, D. C., 1871; a veteran of the Civil War; and for twenty-five years an employee of the War Department; died at his home in Washington, February 5, from cerebral hemorrhage.

Joseph A. W. Hull, M.D. Medical College of Ohio, Cincinnati, 1880; died at his home in Stella, Neb., February 7, from hemorrhage of the stomach, aged 54.

Frederick Coggeshall, M.D. Harvard Medical School, 1892; a member of the American Medical Association, and American Academy of Medicine; a specialist in gynecology and neurology; a member of the neurologic staff of Boston Dispensary; formerly physician to the Boston Hospital and pathologist to Carney Hospital; died at his home in Boston, February 1, aged 50.

Thomas Markley Trego, M.D. College of Physicians and Surgeons, New York City, 1874; a member of the American Medical Association; attending physician to the Child's Hospital, St. Margaret's Home for Infants, and the Home for Aged Men, Albany; died at his home in Albany, N. Y., February 16, from pneumonia following a fall, aged 63.

Percy Duncan Littlejohn, M.D. Yale University, New Haven, 1897; a member of the Connecticut State Medical Society; and of the American Urological Association; first assistant to the chair of genitourinary surgery in the New York Post-Graduate Medical School; died at his home in New Haven, February 11, from heart disease, aged 36.

Albertus T. Ritter, M.D. Baltimore (Md.) Medical College, 1893; a member of the Medical Society of the State of Pennsylvania; physician to the Perry County Alms House, and the Tressler Orphans' Home; died at his home in Loysville, February 10, from the effects of an overdose of chloroform, aged 40.

Massillon Cassatt, M.D. Medical College of Ohio, Cincinnati, 1864; for many years a practitioner of Cincinnati; formerly a member of the American Medical Association; a life member of the Cincinnati Academy of Medicine; died in Jacksonville, Fla., January 5, from organic heart disease, aged 71.

David Marshall Devilbiss, M.D. University of Maryland, Baltimore, 1872; a member of the Medical and Chirurgical Faculty of Maryland; formerly health officer of Frederick County, and a member of the state senate in 1903; died at his home in Woodville, February 14, from nephritis, aged 66.

Benjamin T. Abbott, M.D. Jefferson Medical College, 1870; a member of the American Medical Association; president of the Cape May County and Ocean City, N. J., boards of education; died suddenly, February 17, in the Pennsylvania Railroad station, Ocean City, from cerebral hemorrhage, aged 67.

Henry Schmalhausen, M.D. Jefferson Medical College, 1867; a pioneer practitioner of Montana; a veteran of the Civil War; surgeon-major of the First Regiment, Mont., National Guard; a resident of Idaho since 1875; died at his home in Pony, recently, and was buried January 26.

Oscar F. Pile, M.D. College of Physicians and Surgeons, Chicago, 1888; a member of the American Medical Association, and Tri-State Medical Association; United States pension examiner; died at his home in Memphis, Mo., February 12, after an operation for duodenal ulcer, aged 52.

James Pickens Burke, M.D. University of Pennsylvania, Philadelphia, 1853; a member of the Medical Association of the State of Alabama; surgeon of a Mississippi regiment in the Confederate service during the Civil War; died at his home in Meridianville, February 12, aged 80.

George William Mahle, M.D. University of Maryland, School of Medicine, Baltimore, 1905; a member of the American Medical Association; on the staff of the Robert Garrett Hospital for Children, Baltimore; died at his home, February 20, from tuberculosis of the lungs, aged 29.

Robert Hamilton Phelps, M.D. Syracuse (N. Y.) University, 1894; a member of the American Medical Association; local surgeon at Norwich, N. Y., of the Delaware, Lackawanna and Western, and New York, Ontario and Western railways; died at his home, February 6, aged 41.

Charles Joseph Hamnett, M.D. Bellevue Hospital Medical College, 1865; formerly of Homestead, Pa.; a contract surgeon in the Army during the Civil War; died at the home of his daughter in Washington, Pa., February 3, from obstruction of the esophagus, aged 76.

Edwin D. Leidy, M.D. Jefferson Medical College, 1885; a member of the Medical Society of New Jersey; formerly medical examiner of the public schools of Flemington Borough and Raritan Township; died at his home in Flemington, February 17, aged 53.

Lloyd Alexander Craig, M.D. University of California, San Francisco, 1907; a member of the Medical Society of the State of California; resident physician at St. Mary's Hospital, San Francisco; died at the home of his brother in Oakland, February 7, aged 26.

John Loring Burnham, M.D. Dartmouth Medical School, Hanover, N. H., 1888; a member of the American Medical Association; formerly consulting physician to Elliot Hospital, Manchester, N. H.; died recently at his home in Las Cruces, N. M., aged 53.

William Palmer Chisholm, M.D. New York University Medical College, 1881; a member of the Massachusetts Medical Society; formerly consulting surgeon to Brockton City Hospital; died at the Insane Hospital, Taunton, Mass., February 16, aged 58.

William L. Egan, M.D. Tulane University, New Orleans, 1882; a member of the Louisiana State Medical Society; formerly a member of the Shreveport Board of Health; died at his home in that city, February 19, from heart disease, aged 55.

Thomas Tomelty, M.D. Rush Medical College, 1899; a member of the American Medical Association; for several years health officer of Vernon and Muskego, Wis.; died at his home in Big Bend, Wis., February 16, from pneumonia, aged 45.

Frederic Garvin Conger, M.D. Western Pennsylvania Medical College, Pittsburg, 1895; secretary of the board of pension examiners of Mondovi, Pa., died at the home of his sister-in-law, in Oakland, Pittsburg, January 31, aged 41.

James Youngs Tuthill, M.D. Bellevue Hospital Medical College, 1864; a member of the Medical Society of the State of New York; and Associated Physicians of Long Island; died at his home in Brooklyn, February 15, aged 69.

George Whitfield Ward, M.D. Bellevue Hospital Medical College, 1874; for many years a member of the staff of the Metropolitan Throat Hospital, New York City; died at his home in New York City, February 8, aged 60.

John H. Williamson, M.D. Jefferson Medical College, 1859; a member of the Medical Society of the State of North Carolina; died at his home near Rockingham, February 11, from heart disease, aged 82.

Clarence Howard Slightam, M.D. College of Physicians and Surgeons, Chicago, 1899; formerly of Eau Claire, Wis.; in charge of the Native Hospital, Juneau, Alaska; died in that city, recently, aged 34.

Robert H. McCamy, M.D. University of Pennsylvania, Philadelphia, 1879; for more than thirty years a practitioner of Kensington, Philadelphia; died at his home, January 5, aged 55.

Richard Asbury, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1865; for many years a practitioner of Monroe City, Mo.; died at his home in Hunter, Okla., January 19, aged 72.

Frank Orlando Webber, M.D. Harvard Medical School, Boston, 1877; a member of the Massachusetts Medical Society; died at his home in Cambridge, February 14, from pneumonia, aged 56.

Charles Franklin Kingsbury, M.D. Dartmouth Medical School, Hanover, N. H., 1856; a member of the Massachusetts Medical Society; died at his home in West Medford, February 14, aged 86.

Lafayette Summers, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; a member of the Iowa State Medical Society; died at his home in Milton, February 6, aged 61.

Charles Carroll McCaffrey, M.D. Eclectic Medical Institute, Cincinnati, 1908; of Huntington, W. Va.; died in Seton Hospital, Cincinnati, Dec. 21, 1910, from pneumonia, aged 36.

Orrel McFadden, M.D. Albany (N. Y.) Medical College, 1865; for forty-one years a practitioner of Massena, N. Y.; died at his home, Dec. 29, 1910, from nephritis, aged 74.

Alexander Franklin Binkley, M.D. Vanderbilt University, Nashville, Tenn., 1879; died suddenly at his home near Sycamore, Tenn., February 4, from acute gastritis, aged 66.

Adolph Kraemer, M.D. University of Zurich, Switzerland, 1894; a specialist on diseases of the eye; of San Diego, Cal.; died at his home in that city, January 24, aged 46.

David M. Miller, M.D. College of Physicians and Surgeons, Baltimore, 1887; died at his home in Indian Springs, Tenn., January 8, from disease of the kidneys, aged 69.

Daniel Franklin Royer, M.D. Jefferson Medical College, 1875; a practitioner of Orange, Cal., for twelve years; died Nov. 7, 1910, after an operation for appendicitis.

Theophilus N. Kirkpatrick, M.D. College of Physicians and Surgeons., Keokuk, Ia., 1872; died at his home in Letcher, S. Dak., Nov. 8, 1910, from diabetes, aged 61.

Andrew Niles, M.D. Philadelphia University of Medicine and Surgery, 1852; died in his apartment in Carbondale, Pa., January 17, from senile debility, aged 79.

James C. Wright, M.D. Medical College of Georgia, 1894; a member of the American Medical Association; died at his home in Folkston, January 2, aged 52.

Helen M. Miller, M.D. Woman's Medical College of Pennsylvania of Pennsylvania, Philadelphia, 1884; died at her home in Cleveland, January 6, aged 58.

Frank R. Wyroznski, M.D. Ensworth Medical College, St. Joseph, Mo., 1906; died at his home in St. Louis, February 6, from tuberculosis, aged 32.

Frank Moore Doyle, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; died at his home in Pittsburg, February 7, aged 39.

Josiah M. Bosworth, M.D. Southern Medical College, Atlanta, 1887; died at his home in Atlanta, February 1, aged 69.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

PLANTOXINE

The Therapeutic and Commercial Possibilities in Milk Sugar

Some "patent medicines" are viciously fraudulent; others are simply fraudulent. Some contain habit-forming and dangerous drugs; others contain no drugs at all. Plantoxine is a nostrum marketed by the Plantoxine Company and we understand that the Plantoxine Company is really Edward W. Crittenden, a lawyer, who runs this business as a side line. The mere study of the advertising matter that accompanies Plantoxine would be sufficient to convince one that a lawyer had either written it or had very carefully "edited" it. Plantoxine is said to be:

> "A Preparation of Constitutional Medicines formulated as a Corrective in Abnormal Conditions of the System which create Undue Susceptibility to Miasmatic Diseases, Plant Pollen, La Grippe, etc.; Chronic Malarial Diseases; Hay Fever, Hay Asthma, Rose Cold, etc.; Influenza and La Grippe."

In a descriptive booklet on the nostrum, the theory is advanced that "hay fever and malaria are regional associates," and that both of these pathologic states "viciate [*sic*] the blood." We are further told that "hay fever and la grippe are recognized as different forms of influenza." Having evolved these theories, the "inventor" of Plantoxine set about to discover a cure—or, as it is cautiously designated, "a successful treatment"—for these related diseases.

> "After five years of diligent and painstaking effort along these lines such a remedy has been evolved."

The remedy, of course, is Plantoxine. Says the exploiter:

> "In Plantoxine we now have a simple preparation of the classical constitutional medicines, delicately proportioned and adapted to the general pathology of these cases. It is guaranteed under the Pure Food and Drugs Act of June 30, 1906. and therefore may be considered perfectly safe, while its effectiveness in individual cases may be left to be decided by practical tests."

Naturally, a preparation possessing the properties claimed for Plantoxine would be brought to the attention of physicians by their patients. It is not surprising, then, that the Association's laboratory has been asked to examine this preparation to determine whether or not it contained cocain or any other dangerous or habit-forming drugs. The report of the Association's chemists follows:

LABORATORY REPORT

"The specimen received was a white, odorless powder having the physical properties of milk sugar. Qualitative tests demonstrated the absence of cocain and other alkaloids and indicated that the substance was probably milk sugar. Some time later the correspondent, who had first written to the laboratory, sent an original package of Plantoxine for examination.

"Plantoxine is sold in packages each containing 40 powders, each powder containing about 2 grams (30 grains) of the preparation. The package, which retails for $1.00, contains about 2¾ ounces of the preparation.

"Quantitative examination indicated that Plantoxine consists entirely of milk sugar. The presence of medicinal substances could not be determined. If present their quantities must be small.

"In this connection it should be pointed out that the effect of cocain or its substitutes on the tongue furnishes a very sensitive and fairly distinctive test which may be used by physicians with advantage. If a trace of a powder, such as this, produces no benumbing effect when placed on the tongue the practical absence of cocain or its substitutes may be assured."

The story is told by Mr. Adams in "The Great American Fraud," that a general agent for a jobbing house once declared that he could put an article on the market, possessing neither remedial nor stimulant properties, and by skilful advertising persuade people that it had great therapeutic virtues. Challenged to a bet, he put out his "remedy," and within a year had won the wager. His preparation was nothing but sugar! In the light of the analysis just given, one wonders whether Mr. Crittenden—The Plantoxine Co.—also, is trying to win a bet. As this business has been conducted now about four years, it has ceased to be an experiment and is, presumably, on a paying basis.

The original boxes in which Plantoxine comes, give the price as 75 cents. These words have been obliterated and the preparation is now sold for $1. Doubtless, the advance is due to the increased cost of living—sugar probably costs more now than it did four years ago.

We must give Mr. Crittenden credit for at least a certain degree of modesty in the claims made for his discovery:

> "Plantoxine must not be expected to cure everything. Laxatives, lithia salts, calomel or other special treatment temporarily may be required, but it should be remembered that such measures are to be employed only when specially indicated and that they are not to be considered as being regularly associated with Plantoxine treatment."

Truly Mr. Adams was right when he said that "our national quality of commercial shrewdness fails us when we go into the open market to purchase relief from suffering." While, probably, it would be difficult to get the average, wide-awake American to purchase wooden nutmegs it seems to be an easy matter to sell milk sugar worth 10 cents a pound, wholesale, at $5.82 a pound, retail—providing it is sold as a "cure" for hay fever and "related diseases"!

Organic Iodin Preparations

Iodism is one of the serious disadvantages connected with the use of iodin. To obviate it various suggestions have been made but the combinations of iodids with other remedies designed to lessen their poisonous effects have failed to obviate the occurrence of iodism. This disadvantage of the iodids has led to the recommendation of numerous substitutes which are generally combinations of iodin with various organic radicals. The essential inadequacy of these preparations is emphasized by von Notthafft (*Monatsh. f. prakt. Dermat.*, Oct. 15, 1910, p. 343). He says: "Where iodism is indeed less frequently observed (in these cases indeed it is not wholly excluded), a more careful observation establishes the fact that the preparation either has other disadvantages or that the lower degree of toxicity has in fact its basis in a feebler activity; either the substitutes evolve too little iodin or they split it off with greater difficulty." This is true of substitutes for iodids in general, such as iodoform, iodol, iodolacid, iodipin, iodolenum, iodomeninum, iodopyrin, iodeigone, sajodin and others.

Iodival has a peculiar position. It is true that it produces less irritation of the stomach and intestine but symptoms on the part of the nervous system occur so much the more readily. According to Notthafft, this is to be regretted as the remedy is especially recommended for syphilis of the nervous system. Iothion has the disadvantage of producing cutaneous irritation, so that it cannot be used on sensitive skins. Notthafft reports his experiences with iodoglidin, a preparation in which iodin is combined with a nuclein-free, non-irritating vegetable albumin. The claim has been made that this preparation is free from objectionable side effects. Notthafft is of the impression that it is somewhat better tolerated than the iodids, although he cannot base this on absolute figures because, as is well known, the tolerance of the iodids varies extremely with different people. He finds, however, that it sometimes disagrees with the stomach and may produce serious iodism of which he reports two interesting cases. He sums up his opinion of iodoglidin as follows: It is in general an effective preparation in syphilis, although it acts somewhat more slowly than the iodids. It induces toxic effects somewhat less frequently: still acne, coryza, intestinal affections and nervous disturbances are not rarely observed. While it is a practicable remedy and while it may be tried in certain cases in which other iodin preparations are not borne, and might have a field for application in cases in which the body should contain little salt, still the unlimited praise which it receives in certain circulars and abstracts cannot be accepted. Notthafft cannot agree with the opinion of Seifert and Imhoff that it is tasteless. On the contrary it possesses a somewhat sharp taste resembling mustard oil which is disagreeable to many persons. The claim of Zieler that it produces iodism only in persons with marked idiosyncrasy must be expressly denied.

It is evident from these observations that the claims made for substitutes for the ordinary preparations of iodin should not be accepted without critical examination.

Green Extracts

Green extracts or tinctures of fresh herbs have been introduced into pharmaceutical practice on the theory that they would possess therapeutic properties which would be dissipated by drying the herbs. This may possibly be true of a few plants but for the most part, especially for plants which contain non-volatile, active constituents, the plan is not a good one on account of the variable amount of water contained in the fresh plant. These extracts are official in the British Pharmacopeia and a general formula for tinctures of fresh herbs is included in the United States Pharmacopeia. The following from the *British and Colonial Druggist*, Jan. 20, 1911, shows the unreliability of these preparations:

> Noteworthy among a large number of interesting points in the nineteenth annual laboratory report of Messrs. Southall Bros. and Barclay, Limited, are some observations on the green extracts of the B. P., which have again manifested their unreliability and variation in strength. Evidence of this is given by the following figures of total alkaloids in the green belladonna extract prepared from the herb of the last nine seasons:
>
> | | | |
> |---|---|---|
> | 1.38 per cent. | 0.87 per cent. | 1.57 per cent. |
> | 1.50 per cent. | 1.04 per cent. | 0.98 per cent. |
> | 1.08 per cent. | 1.25 per cent. | 0.80 per cent. |
>
> Thus, the extract of the last season was little more than a half the strength of that of 1908. Worse still, a sample obtained recently of undoubted purity gave only *0.73 per cent.* And again, as regards hyoscyamus, the total alkaloid yielded by a bulk sample of last season's manufacture was 0.084 per cent.—a very low figure. These poor results may perhaps be traced to the wet season, but, having regard to the fluctuations indicated, the view that the green extracts will not survive the present edition of the Pharmacopeia is likely to be confirmed by the event. If they should be retained it appears to be very desirable that standards of alkaloidal strength should be fixed.

As extracts of green drugs in times past have frequently been shown to be variable and unreliable, the observations noted above form another link in the chain of evidence condemning such preparations.

While the formula in the United States Pharmacopeia for the preparation of green tinctures is a general one, the consideration of the facts cited, is recommended to the committee now engaged in revising the Pharmacopeia.

Association News

CENTRAL ROUTES TO LOS ANGELES

More Details of Railroad Plans for the Trip to the Next Session of the American Medical Association

The next annual session of the American Medical Association will be held in Los Angeles, Cal., June 27-30, 1911. Several announcements have appeared in The Journal: A list of hotels with rates was published February 18, page 527; the railroad rates from the Mississippi Valley were announced February 18, page 528; a preliminary announcement of the entertainments was given February 25, page 605. There will be a special convention issue of The Journal as usual in May, giving the program and full particulars; in the meantime various items of information will be given from week to week. The Transportation Committee has submitted the following:

CENTRAL ROUTES TO THE LOS ANGELES SESSION

Last week attention was called to the American Medical Special to Los Angeles over the Santa Fe and the reasons were given for selecting this route. This week, we call attention to the central routes and the points of interest along the following lines:

There are several excellent roads out of Chicago, among which may be mentioned the Burlington, the Rock Island, the Northwestern, the Chicago, Milwaukee and St.Paul, the Illinois Central and the Chicago and Great Western. Most of these lines run magnificent trains through to California. One may go by way of Denver, Salt Lake City and San Francisco to Los Angeles or take the short line from Salt Lake City directly to Los Angeles.

From Denver one may go south through Colorado or by the Denver and Rio Grande to Salt Lake City. On the Denver and Rio Grande is perhaps the most beautiful mountain scenery in this country. Salt Lake City is well worth seeing as is Salt Lake itself which is crossed by the train. West of Salt Lake on the Southern Pacific or Western Pacific one crosses the Great American Desert, then over the Sierra Nevada mountains to San Francisco and down through California to Los Angeles.

From Salt Lake City one may go by the San Pedro, Los Angeles and Salt Lake line directly to Los Angeles. This is the shortest route from Salt Lake City to Los Angeles and crosses a mountainous and desert country. Or one may go from Chicago to Omaha, then over the Union Pacific to Ogden and from there to San Francisco and then down to Los Angeles.

The fare over any of these routes is the same, namely $62.50 for the round trip from Chicago. This rate applies if one goes by any one of these routes and returns by the same or by any other of them; or if one goes by one of them and returns by a southern route; or vice versa. To go by any one of them and to return by one of the northern routes an additional fare of $15.00 will be charged. One cannot both go and return by one of the northern routes at the rates here quoted.

The time by all of the central routes is practically the same, namely, about three days unless stops are made on the way.

Details of the northern routes will be published next week; and later accounts of special trains will be given.

M. L. Harris, Chicago,
Chairman of the Committee on Transportation.

Correspondence

Danger of Trichinosis from Pork

To the Editor:—From time to time reports of outbreaks of trichinosis reach the Department of Agriculture, affording indisputable evidence that the extremely unhygienic custom of eating raw or imperfectly cooked pork is followed to some extent in the United States. On account of the danger involved in this custom, and on account of the common belief by persons aware of the existence of such a disease that pork inspected and passed under the federal meat-inspection law has been inspected for trichinæ, the Department of Agriculture has issued the following notice:

COOK PORK WELL

Cases of illness sometimes occur from eating uncooked or insufficiently cooked pork which is infested with a microscopic parasite commonly known as trichina or flesh-worm, the scientific name being *Trichinella spiralis.* An average of 1 or 2 per cent. of the hogs slaughtered in the United States are infested with this parasite. When transmitted to human beings, trichinæ may cause serious illness, sometimes resulting in death. Out of about 15,000 cases of trichinosis recorded in medical literature, most of which occurred in Europe, 830 resulted fatally.

No method of inspection has yet been devised by which the presence or absence of trichinæ in pork can be determined with certainty, and the government meat inspection does not include inspection for this parasite. All persons are accordingly warned by the United States Department of Agriculture not to eat pork, or sausage containing pork, whether or not it has been inspected by federal, state or municipal authorities, until after it has been properly cooked.

A temperature of about 160° F. kills the parasite; therefore pork when properly cooked may be eaten without any danger of infection. Fresh pork should be cooked until it becomes white and is no longer red in color in all portions of the piece, at the center as well as near the surface Dry salt pork, pickled pork, and smoked pork previously salted or pickled, providing the curing is thorough, are practically safe so far as trichinosis is concerned, but, as the thoroughness of the curing is not always certain, such meat should also be cooked before it is eaten.

A pamphlet giving information on the subject may be obtained on application to the Secretary of Agriculture, Washington, D. C.

I desire to ask the cooperation of the medical profession in giving publicity to the fact that pork in its raw state is a dangerous article of diet, and would also request that any cases of trichinosis which may come under the care of readers of this article be reported to this bureau. The information especially desired is the number of cases and of fatalities, date and place of occurrence of the outbreak, nationality of the patients, and source of the pork which caused the outbreak.

A. D. Melvin, Washington, D. C.
Chief of the Bureau of Animal Industry, United States Department of Agriculture.

Anesthetic vs. Carbon Dioxid

To the Editor:—I have read with interest your editorial on "The New Theory of Shock," in The Journal, Feb. 11, 1911, page 424.

In 1896, I was the guest of the Neurological Society of London, when Mr. Waller demonstrated the effects of anesthetics on peripheral nerves. He showed that ether was the safest anesthetic and that it was better combined with carbon dioxid, as then the nerve showed more rapid response to electrical stimulation. When chloroform alone was used he showed that the peripheral nerves would not respond to electrical stimulation but that when the chloroform was mixed with carbon dioxid they readily responded to electricity and returned to normal. Ever since then, when I administer chloroform I give a little of the drug but keep my hand over the mask, thus making the patient inhale his own breath, in this way giving a certain amount of carbon dioxid.

I have always had good results with this method of anesthesia. Once I was present at an operation when the patient stopped breathing; she was resuscitated and the operation carried to a successful conclusion by administration of chloroform plus rebreathed air—carbon dioxid. In December, 1901, a colleague had a chloroform fatality in a patient with nephritis, and as I had recently had personal experience with nitrous oxid-ether anesthesia, I advocated its adoption in this case; thereby I had the honor to introduce this form of anesthesia into Cincinnati with the original Bennett apparatus. This has been used continuously since at the Ophthalmic Hospital with satisfaction and success. Here, again, we have the carbon dioxid factor for the nitrous oxid only starts the anesthesia and then comes the ether, and by the closed rubber bag we again have the patient breathe carbon dioxid.

Your editorial explains Mr. Waller's demonstration of 1896 which showed that anesthetic plus carbon dioxid is safer than anesthetic alone, and that ether plus carbon dioxid is safer than chloroform in any combination.

W. Edwards Schenck, M.D., Cincinnati.

One Physician's Method of Increasing His Income

To the Editor:—I wish to contribute a statement to the subject of the remuneration of physicians:

I have been in the general practice of medicine since 1890 in Detroit on the same lot on which I was born. For twenty years I trusted all applicants for medical aid with results approximately as follows:

2 per cent. would pay me promptly.
13 per cent. could pay me only "when I went after them."
25 per cent. got out of paying me in every possible way.
60 per cent. did not pay me at all.

Jan. 1, 1910, I turned over a new leaf, and referred to other physicians all would-be patients who did not pay cash and had not approved credit. In 1910, the income from my practice was 98 per cent. greater than my average yearly income for the preceding twenty years and my expenses for 1910 were less than the average yearly expenses for the same period. Except for the fact that I gave my individual attention to my invalid mother for the three years prior to 1908, which cut into my practice considerably, I am unable to assign any other cause than this change of policy for the increase in income.

Since Jan. 1, 1910, I have had more time for reading, refreshment and sleep; and my present plan is preferable to that of those physicians whose ambition is to have the "largest practice" in a community at the cost of poor health or an early death.

John L. Irwin, M.D., Detroit.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FRENKEL'S REEDUCATIVE MOVEMENTS

To the Editor:—Kindly give me some information about Frenkel's exercises. On page 453 of The Journal, of February 11, are references to them, and I would like to know the method of using these exercises.

E. A.

To the Editor:—In the abstract of an article on locomotor ataxia by Dr. Billings, I notice his recommendation of Frenkel's reeducation movements. What are these procedures?

Dr. C. F. Boucek, Allegheny, Pa

Answer.—References to the principal articles dealing with the reeducation of the muscles in tabes dorsalis by the method of Frenkel are given in The Journal, July 18, 1908, p. 239. An abstract of one of Frenkel's articles is given in The Journal, July 22, 1905, p. 294. Some account of the treatment is given in various books on the practice of medicine, and in a recent article by J. K. Mitchell, "Treatment of Locomotor Ataxia by Exercises of Precision," in the *Old Dominion Journal of Medicine and Surgery,* June, 1909; this article was abstracted in The Journal, July 10, 1909, p. 149.

The principle of the method is that while the lesions of tabes cannot be affected by treatment, the lost coordination can be more or less completely restored. This treatment consists in a psychic training of the powers of coordination, not in the attempt to increase muscular power, which often is not impaired. For this reason, the fatigue which may interfere with coordination is a nervous phenomenon, and should not be increased by having the patient attempt severe exercise. Patients with tabes do not feel fatigue readily, but indicate it by loss of precision in their movements, increase in pulse-rate, etc. The patient must be watched lest he go too far, but also should be encouraged to undertake movements of which at first he may not deem himself capable. One of Frenkel's exercises is to have the patient lie in bed and try to place his heel in a set of cup-like depressions in a board placed across the foot of the bed. In other instances, definite spaces are marked on the floor and he is directed to take steps that will bring the heel on each mark.

Precision in each exercise is insisted on by Mitchell, who says: "The exercises, from the simplest to the most complicated, must be performed accurately, with the idea always before both teacher *and pupil that* to do the prescribed movements correctly and *exactly is the task*—not just to do it. If the patient walks, he walks not to reach a certain spot, but to walk in a certain fashion. Individual teaching is absolutely required in the beginning. After the first lessons, and when the patient is once able to do a little work on his feet, he may join a class and find not only that the stimulus of competition is a help, but that his observation of the errors of others assists him to correct his own."

The exercises should not cause fatigue. As a rule, twice a day and not longer than from five to fifteen minutes at a time, and in the severer cases not longer than two or three minutes, should be the limit. Improvement is said to follow in every case, but the amount depends on the length of treatment rather than on the degree of incoordination. Several months are generally necessary if the patient is not to fall back into his old habits. Even the severest cases, if uncomplicated, give a good prognosis with persevering treatment Some of Frenkel's patients, with complete loss of the power of standing or walking, had these faculties entirely restored after from six to twelve months of treatment Orthopedic apparatus may be needed in some cases. Uibeleisen utilizes the buoyancy of water to help in the exercises, as described in The Journal, Jan. 14, 1911, page 162.

FIBROLYSIN IN OPHTHALMOLOGY

To the Editor:—1. With what success has fibrolysin been used in corneal ulcer?

2. What is the dosage used either as instillation into the conjunctival sac or as subcutaneous injection?

B. L. Schuster, Port Huron, Mich.

Answer.—According to "New and Nonofficial Remedies" and Wood's "System of Ophthalmic Therapeutics," fibrolysin is the trade name for a sterile solution of thiosinamin and sodium salicylate, and contains about 15 per cent. of the double salt. It is used as a substitute for thiosinamin. As it readily decomposes on exposure to the air it is commonly marketed in ampullas (Merck), or in bottles containing one dose only, to be given subcutaneously. A hypodermic injection of this remedy is more quickly absorbed, causes less pain and is more efficacious than thiosinamin alone. The remedy is rarely or never used for ulcer of the cornea, but is almost invariably prescribed for the scars remaining after the ulcers have healed. Its effect on any of these lesions is of little account unless used hypodermically or subconjunctivally; even then the remedy is of doubtful utility. Brandenburg has also tried the preparation in the form of intramuscular injections in corneal opacity following keratitis scrofulosa, keratitis purulenta, keratitis trachomatosa, in chronic uveitis and chronic retrobulbar neuritis.

2. Pick has prescribed a subconjunctival injection of 0.5 c.c. of a solution of 2 gm of thiosinamin in 20 gm. of water and 4 gm. of glycerin, corresponding to 0.45 gm. of fibrolysin (1/5 of an ampulla) once a week.

GALL-STONE FAKE

To the Editor:—Several months ago The Journal exposed a gall-stone fake, whereby the patient who took the "treatment" passed a quantity of "gall-stones" or, rather, "soap-stones." A person whom I know took a similar "treatment" and passed 125 soft gall-stones (some as large as hazel-nuts). One of my patients, who is suffering from acute gastritis, was requested to try the gall-stone remedy. I want to locate the article to show him how the fake works. If you can tell me the number of The Journal which contains this article I will be obliged to you. C. O. Nelms, M.D., Herscher, Ill.

Answer.—The "fake gall-stone trick" has been worked for some years by traveling fakers and more recently has been adapted to the "patent medicine" industry. In The Journal, Sept. 24, 1910, "Fruitola," one of the most widely advertised of the gall-stone cure fakes, was exposed, and this, doubtless, is the nostrum to which our correspondent refers. The analyses made by the Association's chemists indicated that Fruitola consisted essentially of anise-flavored olive oil and seidlitz powders.

GASOLINE FOR REMOVAL OF ADHESIVE PLASTER, ETC.

To the Editor:—Recent articles in The Journal make it a matter of conscience with me to announce that gasoline is the best solvent for the face of surgeon's adhesive plaster. The liquid should be freely applied with a wad of cotton. The plaster may then be removed without violence or depilation. So effectual is the solvent that the surgeon will not care whether the cementing material does or does not come away with the cloth. It is merely a matter of a few wads of cotton more or less.

In this connection, I wish to say that gasoline is an antiseptic and that it further commends itself by its power of removing machine-grease from injured fingers and of dissolving ointments at later dressings. Nothing in my office is so useful, with the sole exception of my ledger. Polished instruments, thoroughly dried, will not rust after receiving a dash of gasoline. When desired, one may use it as a solvent for paraffin and coat any instrument with a film. A few drops poured on the water in the wash-bowl will enormously increase the detergent power of soap and water and will prevent the deposit of smeary curds on the side of the bowl, even when hard water is used. A discreet use of it on the front of the doctor's coat and waistcoat will often exalt his personal pulchritude. Gasoline will clean up the bearings of the bicycle or centrifuge and will quickly remove all gum from the doctor's type-writer—or her writing-machine.

A liquid so inflammable should not be exposed in quantity. An ordinary oil-can is a fine dispensing apparatus, but a screw-cap bottle, such as the perfumers use for toilet waters, is much more elegant. I myself use a bottle that I got from my own wife—to avoid explosion. Dan Millikin, M.D., Hamilton, Ohio.

To the Editor:—The articles of Drs. Beardsley and J. Scott Brown, in The Journal, January 28 and February 25, respectively, concerning the removal of adhesive plaster, are of general practical interest. The costliness of Dr. Beardsley's oil of wintergreen and the pain and friction required in Dr. Brown's method with ether cause me to suggest the use of gasoline for the removal of the plaster. For a number of years I have used gasoline in the following manner: Saturate a cotton sponge with gasoline and apply it directly to the posterior surface and the end of the adhesive plaster. This loosens the end effectively and allows it to be grasped by a pair of thumb forceps. Then, by gentle traction on the end of the plaster, it is lifted away from the surface, and by applying the cotton sponge at the junction of the skin and remaining plaster the plaster is easily and rapidly peeled off. If any of the adhesive material remains it is quickly dissolved and removed by gentle friction with the aforesaid sponge.

J. A. Cannon, M.D., Washington, D. C.

THE WORD APPENDICEALGIA

To the Editor:—Who was the author of the new word "appendicealgia?" Has anything been published on the subject? What are the symptoms of the disease? A. C. J.

Answer.—The word appears in Dorland's "Medical Dictionary," as also does the abbreviated form "appendalgia." We do not know its author. Both are merely terms for appendicular colic, and as such they are treated in practically all works on appendicitis.

THE BRACHIAL PLEXUS

To the Editor:—Does the second thoracic nerve have anything to do with the formation of the brachial plexus nerve normally?

L. S. Griffin, M.D., St. Louis.

Answer.—Yes.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Feb. 25, 1911.

Norman, Seaton, M.R.C., on his relief from temporary duty at Fort Wingate, N. Mex., ordered to Fort Bliss, Texas, for temporary duty.

Farrow, Edgar J., M.R.C., left Fort Morgan, Ala., en route to Fort Sam Houston, Texas, for temporary duty.

Wolven, F. Homer, D.S., left Fort George Wright, Wash., en route to Boise Barracks, Idaho, for temporary duty.

Freeman, Paul L., captain, left Fort Riley, Kan., for temporary field duty in Texas.

Ferenbaugh, Thomas L., lieut., left Fort Des Moines, Iowa, for temporary duty in field in Texas.

Powell, William A., captain, ordered to the Presidio of San Francisco for duty.

Thomason, Harry D., captain, ordered to proceed at the proper time to Frankfort, Ky., for conference about Feb. 26, 1911, with the adjutant of Kentucky in connection with reorganization of the sanitary troops in that state.

Schlanser, A. E., lieut., left Walter Reed General Hospital, Takoma Park, D. C., en route to West Point, N. Y., for temporary duty.

Johnson, Thomas H., lieut., left Fort Baker, Cal., en route to Fort Barry, Cal., for temporary duty.

Dickenson, C. F., M.R.C., left Fort Barry, Cal., on ten days' leave of absence.

Pillsbury, Henry C., captain, left Jefferson Barracks, Mo., with recruits en route to Fort McDowell, Cal.

Phalen, James M., captain, left Columbus Barracks, Ohio, with recruits en route to Fort McDowell, Cal.

Allen, William H., lieut., left Fort Slocum, N. Y., with recruits en route to Fort McDowell, Cal.

Patterson, Edwin W., M.R.C., granted leave of absence for three months, with *permission to go beyond the seas, to take effect on* his relief from duty in the Philippines division.

Lynch, Charles, major, order directing him to proceed to the Philippine Islands for duty is revoked.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

OPTOMETRY EXAMINATION QUESTIONS

Since 1901, laws creating state boards for the examination of practitioners in "optometry" have been adopted in twenty-four states. These are: Minnesota (1901), California and North Dakota (1903), Oregon (1905), New Mexico (1906), Arizona, Montana, Idaho, Utah, Tennessee, Indiana and Nebraska (1907), New York, Vermont, West Virginia, North Carolina, Delaware, Maine, Washington, Iowa, Rhode Island, Kansas, Michigan and Florida (1909).

Many physicians are apparently indifferent to this invasion of the field of medicine, and regard these self-styled "optometrists" as merely spectacle fitters. As an evidence of the extent to which they are endeavoring to cover the entire realm of the diseases of the eye, the examination questions used by the boards in a number of states are quoted herewith. As will be seen, the questions relate, not only to the correction of errors of refraction, but to practically all diseases of the eye. The questions given are quoted verbatim from the examination papers.

California.—Explain the following: Aberration, Aniridia, Actinic, Steigmatism, Cyclophoria, Dacryoma, Erucleation, Epicanthus, Senopia, Epilation, Caruncle, Myosis, Mydriasis, Cycloplegia, Chromatism, Nyctalopia, Keratitis, Leucoma, Hordeolum, Anisometropia, Ontimetropea. Describe the dilator iris, its function and nerves. Name the principal arteries of the eye. State shortly what you know of cataract diagnosis, its varieties, cause and methods of removal.

North Dakota.—What is blepharitis marginalis? Describe the difference between hordeolum and chalazion. Describe simple corneal ulcer, giving etiology and prognosis. Describe cataract in general and one kind or more in particular. Describe glaucoma. What are the objective symptoms? Describe emblyopia potatorum. How does the retina appear in a bad case of aluminuria?

Arizona.—What is blepharitis? If neglected, is it likely to become a permanent trouble? What is granular ophthalmia? What is conjunctivitis? What is iritis? What is glaucoma? What is choroiditis? Symptoms? What is apt to be the effect of rupture of the choroid?

Utah.—What is pterygium? trachoma? How would you detect cataract? What is it? What is nystagmus; anisometropia?

Oregon.—What is a cataract? How do you tell whether a patient has cataract or not? What is glaucoma and what are some of the most common symptoms? What is the choride and what are its uses? What is amaurosis? What does the motor oculi or third pair of nerves supply? What is cyclitis? What is the conjunctiva and what are its uses? What is the least and the most sensitive part of the retina and why? What are the lavator palpebræ and what are its uses?

Indiana.—What do you understand by the term homonymous hemianopsia? Describe the difference between the location of a ptergium and a cataract. Tell how to differentiate between a paralysis of an external muscle and a concomitant squint. What is a pupillary reflex? How would you examine the eyes to determine the pupillary action? Describe the action of an Argyll-Robertson pupil. How many layers has the retina? Name the most sensitive part of the retina. Describe the optic disk. From what source does the retina obtain its nourishment? Name the bones of the orbit. Describe the muscles of the eyelids. Where situated and what is the iris? Give its function. Name the humors of the eye. Describe the optic track from the eye to the optic thalamus.

Iowa.—What nerves supply the two muscles controlling the iris? Describe a cataract and tell what you know of the different kinds. What is keratitis? What is blepharitis? How does the ciliary muscle affect vision? How would paralysis of the fourth cranial nerve affect the eyes? How does the liver influence digestion? What are the functions of the thyroid gland?

Given a patient complaining of short periods of dimness of both near and distant vision, which are becoming more frequent, with occasional instants of complete darkness; these periods sometimes accompanied by pain in eyeball and orbital region; also states that during these periods halos are seen around the lamp or similar spots of light; that he has never worn glasses for distance, but that of late he has been compelled to change his reading glasses to higher and higher power at frequent intervals. On examination you discover a "hazy" appearance of the cornea, pupil dilated, and immobile or at least sluggish of response, and on pulsating the eyeball you discover an abnormally high tension, what would you diagnose this case to be?

What is the generally accepted theory as to its cause? What is meant by the term monocular diplopia, and what is usually indicated by it? Describe briefly arcus senilis. Define cataract, giving symptoms, and tests you use when you suspect its presence. Describe pterygium. What is a chalazion? What is a stye? What is trachoma? What is meant by scotoma?

Delaware.—Describe a cataract and tell what you know of the different kinds. What is blepharitis marginalis? Describe simple corneal ulcer and give the most conspicuous symptom. Name a disease of the eyes on account of which emigrants are refused admission to this country; give reason. Describe glaucoma and give the principal diagnostic features. What is hemniopa and its cause? What are the rods and cones and their function?

Rhode Island.—Describe cataract in general and some one particular kind fully. What is choroiditis, retinitis, iritis, conjunctivitis, blepharitis marginalis? Describe simple corneal ulcer and give the most conspicuous symptom. Describe glaucoma and give the principal diagnostic feature.

Maine has as yet held no examinations. The secretary of the Maine Board of Optometry, however, announces that the subjects for examination will be: Practical Optometry, Practical Optics, Physiological Optics, Theoretic Optometry, Anatomy and Physiology, Diseases of the Eye.

The Vermont, 1909, Handbook on Optometry announces the following subjects for the examination in Montpelier, January, 1910: Theoretic Optics, Practical Optics, Objective Optometry, Subjective Optometry, Anatomy and Physiology of the Eye, Physiologic Optics, Pathologic Conditions of the Eye.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—First Weekly Meeting

General Subject for the Month: Non-Inflammatory Diseases of the Uterus and Appendages

ANATOMY

UTERUS: Shape, size, position, important relations. Broad, round and uterosacral ligaments. Portions of uterus. Structure; serous, muscular and mucous coats. Attachments of vagina to cervix. Blood-vessels and nerves. Lymphatics, three groups.

FALLOPIAN TUBES: Position, portions, structure. Blood-supply. Broad ligament, structure, relations, contents.

OVARY: Shape, size, position, relations, ligaments. Structure and functions. Blood-vessels, nerves, lymphatics.

PELVIC FLOOR: Skin, superficial and deep fascias, levator ani, transverse perineal, ischiocavernosi and sphincter ani muscles. Functions and mechanism of pelvic floor.

DISPLACEMENTS OF THE UTERUS

ASCENT, descent, lateral, anterior and posterior, flexion and version.

PROLAPSE: Pathology: Degrees of prolapse, changes in uterus, in adjacent organs.
Diagnosis. Symptoms, physical examination.

ANTEFLEXION: Incidence, causes.
Symptoms. Dysmenorrhea, sterility, leukorrhea.
Treatment.

RETRODISPLACEMENTS, VERSION AND FLEXION

CAUSES: Injury to pelvic floor, subinvolution of uterus, too long on back after labor, overdistended bladder and rectum, dress, occupation, posture, chronic disease, etc.

SYMPTOMS: Backache, leukorrhea, headache, pelvic, rectal and bladder symptoms, menstrual disorders, nervous symptoms.

TREATMENT: Removal of cause. Replacement. Use of pessary and tampon. Operative treatment: Technic of shortening round ligaments, Montgomery, Barrett, Gilliam operations.

INVERSION OF THE UTERUS

Acute and chronic inversion. Symptoms. Treatment.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: Laramie, March 7-9. Sec., Dr. J. B. Tyrrell.

Illinois July and October Reports

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examinations held at Chicago, July 20-22, and October 19-21, 1910. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75.

At the examination held July 20-22, the total number of candidates examined was 145 of whom 117 passed and 26 failed. Two candidates did not complete the examination. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
Denver and Gross College of Medicine	(1908)	1
Georgetown University	(1909)	1
George Washington University	(1909)	1
Bennett Medical College, Chicago	(1910)	10
Chicago College of Medicine and Surgery	(1910)	15
Hahnemann Medical College and Hospital, Chicago	(2, 1909) (2, 1910)	4
Hering Medical College	(1910)	1
Jenner Medical College	(1910)	9
Illinois Medical College	(1910)	2
Northwestern University Med School	(1909) (8, 1910)	9
College of Physicians and Surgeons, Chicago	(1909) (16, 1910)	17
Reliance Medical College	(1910)	4
Rush Medical College	(1899) (1909) (11, 1910)	13
University of Louisville	(1910)	12
Tulane University of Louisiana	(1903)	1
University of Michigan, Homeopathic College	(1910)	1
Homeopathic Medical College of Missouri	(1908)	1
St. Louis College of Phys. and Surgs.	(1906) (4, 1910)	5
Barnes Medical College	(1910)	3
Jefferson Medical College	(1910)	3
Vanderbilt University	(1910)	1
McGill University, Quebec	(1910)	2
University of Athens, Greece	(1901)	1
FAILED		
University of Arkansas	(1909)	1
Bennett Medical College, Chicago	(1909) (2, 1910)	3
Chicago College of Medicine and Surgery	(1910)	2
College of Medicine and Surgery, Physio-Medical, Chicago	(1910)	1
Hering Medical College	(1910)	1
Illinois Medical College	(1910)	1
National Medical University, Chicago	(1909)	2
College of Physicians and Surgeons, Chicago	(1910)	2
Keokuk Medical College, College of Physicians and Surgeons	(1908)	1
Sioux City College of Medicine	(1906)	1
Hospital College of Medicine, Louisville	(1904)	1
Barnes Medical College	(1910)	2
St. Louis College of Physicians and Surgeons	(1906) (1908) (3, 1910)	5
Meharry Medical College	(1910)	2
University of Naples, Italy	(1901)	1

At the examination held October 19-21, the total number of candidates examined was 81, of whom 34 passed and 42 failed. Five candidates did not complete the examination. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
Bennett Medical College	(1910)	2
Chicago College of Medicine and Surgery	(1910)	3
College of Medicine and Surgery, Chicago	(1910)	1
Hahnemann Med. College and Hospital, Chicago	(1910)	1
Jenner Medical College, Chicago	(1910)	2
Illinois Medical College	(1910)	1
Northwestern University Medical School	(1910)	2
College of Physicians and Surgeons, Chicago	(1910)	9
Reliance Medical College	(1910)	2
Rush Medical College	(1910)	2
Indiana University	(1910)	1
University of Maryland	(1910)	1
Harvard Medical School	(1908)	1
Boston University	(1910)	1
St. Louis College of Physicians and Surgeons	(1910)	1
Washington University, St. Louis	(1903)	1
University of Buffalo	(1895)	1
Meharry Medical College	(1910)	1
University of Berlin, Germany	(1901)	1
FAILED		
University of Arkansas	(1910)	1
Bennett Medical College	(1909) (2, 1910)	3
Chicago Coll. of Medicine and Surgery	(1908) (2, 1910)	3
College of Med. and Surg., Chicago	(1908) (5, 1910)	6
Hering Medical College, Chicago	(1910)	1
Jenner Medical College	(1910)	2
Illinois Medical College	(1910)	2
National Medical University, Chicago	(1909)	2
College of Phys. and Surg., Chicago	(1909) (4, 1910)	5
Reliance Medical College	(1909)	2
Keokuk Medical College, College of Physicians and Surgeons	(1906)	1
Sioux City College of Medicine	(1906)	1
Hospital Medical College, Louisville	(1904)	1
Louisville and Hospital Medical College	(1908)	1
Barnes Medical College	(1903) (1907) (3, 1910)	5
St. Louis College of Physicians and Surgeons	(1907) (1908) (2, 1910)	4
St. Louis University	(1907)	1
Meharry Medical College	(1910)	1

Alabama January Report

Dr. W. H. Sanders, Chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, January 9-12, 1911. The number of subjects examined in was 10; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 42, of whom 18 passed and 24 failed. The following colleges were represented:

College	Year Grad.	Total No. Examined.
PASSED		
University of Alabama	(1910)	5
Birmingham Medical College	(1910)	2
Atlanta College of Physicians and Surgeons	(1910)	1
Tulane University of Louisiana	(1909) (1910)	2
Tufts College Medical School	(1908)	1
University of Michigan, Coll. of Med. and Surg.	(1909)	1
Leonard Medical School	(1910)	1
Jefferson Medical College	(1904) (1909)	2
Medical College of South Carolina	(1906)	1
University of Nashville	(1909) (1910)	2
FAILED		
University of Alabama	(2, 1909) (7, 1910)	9
Birmingham Medical College	(1910)	2
Atlanta College of Physicians and Surgeons	(1910)	2
Atlanta School of Medicine	(1909)	1
Louisville Medical College	(1907)	1
Tulane Universi[illegible]	(1910)	2
[illegible]	(1910)	1
[illegible]	[illegible]908) (2, 1910)	4
[illegible]	(1908)	2

* No year of graduation given.

New Hampshire January Report

Mr. H. C. Morrison, regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, Jan. 3-4, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass; 75. The total number of candidates examined was 8, of whom 5 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Maryland Medical College	(1908)	75
Harvard Medical School	(1908)	81
Laval University, Quebec	(1909)	76
University of Athens, Greece	(1901)	75
University of Naples, Italy	(1906)	82
FAILED		
Baltimore Medical College	(1909)	60
Dartmouth Medical College	(1896)	61
University of Athens, Greece	(1903)	55

Book Notices

Pellagra. By Dr. A. Marie, Physician to the Asylums, Department of the Seine, Paris, France. With Introductory Notes by Professor Lombroso. Authorized Translation from the French by C. H. Lavinder, M.D., Passed Assistant Surgeon U. S. P. H. and M.-H. Service, and J. W. Babcock, M.D., Physician and Superintendent State Hospital for the Insane, Columbia, S. C. Cloth. Price, $2.50. Pp. 434, with illustrations. Columbia: The State Co., 1910.

The sociologic and economic importance of pellagra and the still unsolved mystery of its etiology are sufficient to ensure a welcome to any work presenting a good review of the subject. The comparative newness of the subject to the profession in the United States makes the preparation of such a book an unusually difficult task for an American physician. The authors, therefore, decided to present to English readers an authorized translation of the standard work of Marie, adapting it to American conditions by extensive additions and explanations. They were fortunate in securing the friendly interest of Lombroso, who shortly before his death wrote a preface for the work. The work of Marie is essentially an abbreviation of the larger work of Lombroso, so that the translators, in order to give a wider view of the etiologic theories, have introduced an account of the views of the antizeists. A chapter on symptomatology is also the work of the translators, so that the contributions to this work from their hands form an important feature of the book. The views on etiology are primarily those of Lombroso and connect the disease in some way with spoiled maize. The discussion of prophylaxis follows the same course as a necessary corollary. In this respect the European origin of the book necessitates a certain lack of adaptability to American conditions. The account of European varieties of maize and the methods of culture are of minor interest to the American farmer and sanitarian. The problems in this country concern more particularly the harvesting of unripe corn and the transportation of damaged or adulterated meal.

The authors give the conclusions and suggestions of Alsberg on the relations of corn culture in the United States to pellagra, but further study of this subject would be desirable. The account of symptomatology, diagnosis, prognosis and treatment is sufficiently complete. Two bibliographies, one English and the other foreign are appended. These are arranged chronologically and show the very considerably increased interest in the subject in the last few years, especially in the United States. The illustrations are mostly pictures of pellagrins, mostly Americans.

In general, the work may be unhesitatingly commended as a good presentation of this important subject.

The Practice of Surgery. By James G. Mumford, M.D., Visiting Surgeon to the Massachusetts General Hospital. Cloth. Price, $7 net. Pp. 1015, with 682 illustrations. Philadelphia: W. B. Saunders Co., 1910.

This book is novel in the manner of its conception and in being a text-book for the graduate who has surgical aspirations and not for the student. It is a text-book on clinical surgery. The principles of surgery are not considered, and preliminary training in pathology, bacteriology and the principles of surgery is presumed. Mumford narrates his experiences with surgical operations extending over a considerable number of years, describing what, in his opinion, are the best procedures to adopt for a given case. Useless gossip and verbose descriptions of every known procedure, good, bad or indifferent, are wisely omitted. The book cannot fail to prove really useful to anyone who is looking for light in this field.

Surgical diseases are taken up in the order of their interest, importance and frequency, the sequence followed being, first, appendicitis; then surgical diseases of the abdomen and its contents, of female organs of generation, of the genito-urinary organs, of the chest, face and neck, of the head and spine; and minor surgery with diseases of structure. In the treatment of appendicitis the author prefers the muscle-splitting operation; he advocates removing the appendix (after the abdomen is opened for other reasons) if there is cause to suspect that it may become involved through the subsequent spread of peritoneal inflammation and the formation of adhesions about it. This is one of the few instances in which the author has allowed himself to indulge in an excursion into the field of debatable problems. Controversial points, such as the relative merits of cholecystostomy and cholecystectomy, are discussed briefly but pointedly, and the reader receives practical, dependable information on the subject.

One of the especially good features of the book is that the general cardinal principles for operation—gall-bladder operations, for instance—are stated, and then the special indications for performing a particular operation—as cholecystostomy or cholecystectomy—are given. The author has displayed unusually good judgment in his selection of operations. Every detail of surgical progress has been noted, applied, accepted if good and rejected if worthless.

The illustrations are excellent, numerous and helpful; they are elucidating and not confusing.

The Diseases of Infants and Children. By Edmund Cautley, M.D., Cantab., Senior Physician to the Belgrave Hospital for Children. Cloth. Price, $7 net. Pp. 1042. New York: Paul B. Hoeber, 69 East 59th Street, 1910.

Many new books on diseases of children have appeared in the last few years, and English writers have made three notable contributions. The books of Thompson and of Still made no attempt at completeness; they dealt at great length with things in which the authors were especially interested, and entirely passed over equally important subjects. Thus, while they are of value to the practicing physician, they cannot be considered as text-books. Cautley felt that "a new, systematic and up-to-date book on the subject was required," and the present volume is the result. This book is distinctly a British product. The British pediatricians are greatest as clinicians; they keep us constantly at the bedside rather than in the laboratory, but in spite of this reversal of the present tendency, we recommend this book as a text-book on diseases of children, both to the practicing physician and to the student. It is a marvel of completeness and thoroughness; the style is clear and forcible; the arrangement is excellent and the matter is strictly up to date, containing, for example, references to Flexner and Lewis' latest work on poliomyelitis. One marvels how the author has been able to keep his mind wholly uninfluenced by the epoch-making work that has been done recently in Germany on the subject of infant-feeding, but this peculiarity is shared by all other English and most American writers. Throughout the book one is constantly impressed with its completeness and with the systematic arrangement of the subjects. Thus at the end of the book we find three chapters on the ear, the eye, and the skin in childhood. It would be a pleasure to speak in detail of the chapter on nervous and mental diseases, which covers nearly 200 pages, and of many other equally valuable portions, but space will not permit. The author does not believe in pictures—"the kindergarten method of teaching," as he calls it—and so none appears in the book. The binding and the typographic appearance are all that could be desired.

Diseases of the Heart and Aorta. By Arthur D. Hirschfelder, M.D., Associate in Medicine, Johns Hopkins University. With an Introductory Note by Lewellys F. Barker, M.D., Professor of Medicine, Johns Hopkins University. Cloth. Price, $6. Pp. 632, with 329 illustrations. Philadelphia: J. B. Lippincott Co. (1910).

This volume is destined to become a valuable reference work for the practitioner and a more familiar and necessary companion to the teacher of internal medicine. A cursory comparison of this book with Samson's "Diseases of the Heart and Aorta," written twenty years ago, is instructive. In the older treatise symptomatology received more attention, and, of the methods of examination, auscultation and percussion were strongly emphasized. The sphygmograph was expounded at great length and an importance attached to its arterial tracings that is no longer conceded. Turning from the old to the present volume we note the dominant influence of physiologic studies, including the results of experimental observation. The arterial tracings have been replaced by simultaneous tracings of heart, artery and vein by which alterations and irregularities of cardiac rhythm can be definitely analyzed. The arterial sphygmomanometer has developed a great field of knowledge. The *x*-ray has given a clear photograph of heart and aorta. The discovery of the bundles of His has revealed many of the secrets of arrhythmia. The electrocardiagram has made its debut and promises well. The author has written a discriminating chapter on drug treatment and has successfully condensed the methods and merits of gymnastics and hydrotherapy. A chapter on the effect of anesthetics on the heart and circulation and on the choice of anesthetics would be a desirable addition. The arrangement of the contents is sometimes difficult to follow and the inclusion of case reports is a doubtful asset. But on the whole the book represents one of the most solid contributions of recent years to medical literature.

A Manual of Nursing. By Margaret Frances Donahoe, Formerly Superintendent of Nurses and Principal of Training School, Philadelphia General Hospital. Cloth. Price, $2 net. Pp. 489, with 52 illustrations. New York: D. Appleton & Co., 1910.

This manual takes the nurse through the whole course of her hospital training and makes the application of the knowledge thus acquired to her private work. The author, being herself a nurse and for many years a superintendent of nurses, has overlooked little that should be incorporated in such a book. Anatomy is not considered but diseases and their symptoms are described simply, so that the nurse may have a sufficient understanding of their nature to assist physicians. Critical symptoms or turns in the patient's condition are described, and what to do in emergencies so that the nurse is forearmed as well as forewarned in regard to exigencies. The nurse's point of view is the one constantly kept in mind, and the book, therefore, has not the fault of some books on nursing written by physicians, which enter too deeply into matters that belong properly in the province of the physician and not in that of the nurse. The author's style is simple and concise, and easily understood by the beginner. The manual is a good one.

Praktische Kinderheilkunde in 36 Vorlesungen für Studierende und Aerzte. Von Dr. M. Kassowitz in Wien. Paper. Price, 18 marks. Pp. 653, with illustrations. Berlin: Julius Springer, 1910.

This book is in the form of a series of thirty-six lectures. Although not a complete treatise, it covers the more important subjects admirably with perhaps one exception, that of the gastro-intestinal diseases, which are all described in a single chapter. The book is of especial value since it represents the author's personal experiences with all of the conditions described, and one feels that it is his text-book, his point of view, his therapy, and not a mere compilation of the theories and practices of other authors.

The chapters on rickets are good. Kassowitz more than any other writer has been the advocate of phosphorus in the treatment of rickets, and goes into the subject, perhaps even to greater length than necessary. The four lectures devoted to rachitis and related conditions give one a good insight into the complex question of the relationship of rachitis and tetany, splenic anemia, etc. The chapter on congenital syphilis is also very instructive. Taken as a whole, the book is a valuable addition to pediatric literature.

The Care and Training of Children. By Le Grand Kerr, M.D., Author of "Diseases of Children," etc. Cloth. Price, 75 cents net. Pp. 233. New York: Funk & Wagnalls Co., 1910.

The book deals with children after the age of infancy on to adolescence. The author speaks not only as a physician, but also from the experience of a parent who has given the subject careful study and attention, so that matters pertaining to the physical welfare of the child are entered into, such as clothing, diet, bathing, sleep, the bowels and teeth, and the lighting, heating, ventilation of living-rooms, education, parental relations, government, punishment, moral training, amusements, literature, friends, etc., and the important questions of sex enlightenment and the matter of evil habits are discussed in a practical, common-sense way. The book should be helpful to parents in the training of children.

Diätetik innerer Erkrankungen zum praktischen Gebrauche für Aerzte und Studierende. Von Dr. Theodor Brugsch. Paper. Price, 4.80 marks. Pp. 245. Berlin: Julius Springer, 1911.

The author of this little work avoids theoretic discussions, and after a brief account of the physiology of nutrition enters at once on the description of the dietetic treatment of the various forms of disease. The pathology is briefly considered and the treatment is described in such a way as to give a clear statement of the general principles and at the same time sufficient detail for the practical guidance of physicians acquainted with German.

Medicolegal

Admissibility in Evidence of Physician's Account Books—Corroboration in Action Against Administrator

The Supreme Court of New Mexico affirms a judgment for the plaintiff in the case of Radcliffe vs. Chavez (110 Pac. R. 699), an action by a physician, against an administrator, on a claim for services. The court says that the testimony showed that the initial memorandum of professional visits was in two physicians' pocket day-books, which were received in evidence, but, while recording all the visits, they failed after a certain date to record the charges for such visits. However, two other books, called ledgers, might be classed as books of original entry and be considered admissible in evidence to the extent that the entries in them were original entries, if otherwise competent under the statute.

With reference to a statutory provision that the books of account of any merchant, physician, or other person doing a regular business and keeping daily entries thereof may be admitted in evidence as proof of such accounts on condition that he kept no clerk, or else the clerk is dead or inaccessible, on proof, by his customers, that he usually kept correct books, etc., the court holds that the fact that a physician's wife from time to time made entries in such books from his dictation did not constitute her a clerk so as to render the books inadmissible. The work "clerk," as used in the statute, implies more than a mere amanuensis. It means one having knowledge of the business so as to be able of his own knowledge to testify as to it. And as to proof by customers, it is sufficient if it be shown by them that during a period of years they have always found their accounts as tendered correct, coupled with testimony that such accounts were taken from the books in question; it not being essential that the customers shall have actually examined such books and compared their accounts with them. Where, therefore, as in this case, two patients come in and testify that their accounts as presented were uniformly correct, and where it is shown that such accounts were drawn from the books in question, the law infers from the treatment of the two a like treatment of the remainder, and considers the verity of the books established.

Then, books of account shown to conform to the requirements of the statute referred to are admissible in evidence, and, when so admitted in a suit against an administrator, may constitute "other material evidence" corroborating the claimant, as required by statute in an action against an administrator.

But the claimant went further in this case. His account was composed of several classes of items: (1) 167 visits for which $5 a visit was charged; (2) extra charges for some sixteen ordinary examinations of urine at $5 each; (3) five microscopic examinations necessitating trips to Albuquerque for which extra charges of $25 each were made; (4) washing out bladder six times at $10 each; (5) for limiting practice in order to stay near patient sixty-nine days at $5 per day; (6) for all-day and all-night service on the date of the patient's death $50. The plaintiff testified to the correctness of all of these charges, but, being of six separate classes, corroboration of all of one would not be sufficient to sustain the other.

Besides the claimant's books of accounts which, as has already been seen, were properly received in his behalf, and, when so received, were material evidence corroborating his testimony, the testimony of his wife showed that he had attended this patient as physician a number of times during the period charged for. Another physician testified to a knowledge of the case and to the necessity for examination of the urine, both ordinary and microscopic, to the fact that six of the former had been made with his help and to the reasonableness of the charges made therefor, to the presence of the claimant there night and day of the date of the last charge, to the fact that his presence was for the purpose of keeping the patient alive until some one who had been notified could arrive, and to the reasonableness of the charge of $50 therefor, to his knowledge of the fact that the claimant had for a considerable period previously to the death of this patient limited his practice to him, and declined outside practice, and that a charge of $5 a day was a reasonable charge for such limitation. He further testified that $2 was a reasonable price for the ordinary visit of a physician. A woman testified that she was nurse in attendance on the patient for two months and eleven days before his death, and that during that period, on the patient's request, the claimant attended, making sometimes two and sometimes three visits a day and sometimes at night, and that from about the beginning of such period the patient asked the claimant to be in attendance on him constantly during the time until he either died or got well. This last was corroborative of the claimant's testimony to the effect that he had on the special request of the patient limited his practice so as to be near him during the last sixty-nine days of his illness. The court deems this testimony, in connection with the books sufficient to corroborate and sustain all six of the classes of items above mentioned.

Testimony of a witness as to seeing the claimant's buggy stop at the patient's house was competent evidence as corroborative of the claim that he visited the patient professionally.

Practicing Medicine—Assignee of Claim of Unauthorized Practitioner

The Court of Civil Appeals of Texas affirms a judgment for the defendant in the case of Barnes vs. Sparks (131 S. W. R., 610), where he was sued on a note for $100 dated in January, 1905, and pleaded that the note was given for professional services rendered and to be rendered by one Dr. Dunnagan as a physician, and alleged that the latter was not at the time the note was given authorized to practice medicine in Hamilton county, where the note was executed, because he had not caused his license to practice medicine to be recorded in that county.

The defendant testified that he was afflicted with asthma and that Dr. Dunnagan came to his residence in Hamilton county, represented himself as a physician and agreed to cure him for $100; that he accepted the offer and executed to Dr. Dunnagan the note sued on; that immediately after the execution and delivery of the note Dr. Dunnagan gave him a dose of medicine, and that he thereafter received other medicine in pursuance of Dr. Dunnagan's contract, and did not know who sent it, unless it was Dr. Dunnagan. He also admitted that at the time he executed the note he signed a written contract with a medical institute, which was signed by the latter by said Dunnagan as diagnostician. Dr. Dunnagan testified that he did not prescribe for the defendant or give him any medicine; that he examined him, diagnosed his case; that he was prescribed for by a physician of the institute at Dallas, and that the medicine was furnished by that institute. The court thinks that the defendant's testimony warranted the conclusion that Dr. Dunnagan was practicing medicine on the occasion in question, and that at least part of the consideration of the note was for professional services rendered by him at that time.

Furthermore, the court overrules the contention that the laws of Texas do not make it unlawful for an assignee to maintain an action to recover for professional services of a physician prohibited by the statute from practicing. It holds that such defense is available against an assignee, unless such assignee is entitled to protection as an innocent purchaser and bona fide holder.

Refusal to Submit to Treatment Must be Unreasonable to Affect Verdict

The Supreme Court of Appeals of Virginia, in Roanoke Railway & Electric Co. vs. Sterrett (68 S. E. R., 998), a personal injury case brought by the latter party, holds correct an instruction which told the jury that if they believed from the evidence that the plaintiff unreasonably refused to submit to the treatment of physicians, or unreasonably refused to follow their instructions in regard to her injuries, and that in consequence of her refusal so to do her injury was aggravated and increased, then she could not recover damages to the extent that her conduct resulted in damage to her, and which might have been avoided and prevented by submitting to the treatment and following the directions of her physicians. The court says that objection was made to the interpolation of the word "unreasonably" in the instruction. The physicians alluded to were the surgeons of the defendant company employed by it to attend the plaintiff. She had also engaged physicians of her own selection, and by the instruction as originally offered was held bound at the risk of curtailing her recovery of damages to submit to the treatment prescribed by the defendant's surgeons whether reasonable or unreasonable. The amended instruction correctly told the jury that the plaintiff's right of recovery could be affected only by her unreasonably refusing to submit to the treatment or follow the instructions of physicians.

One Registration Only Required

The Court of Appeals of Georgia holds, in Jones vs. State (69 S. E. R. 315), that an indictment or accusation, charging a violation of section 1479 of the Political Code of Georgia of 1895, in that the defendant did practice medicine without registering in the office of the clerk of the superior court, is fatally defective, if it fails affirmatively to allege that the county in which he is charged with having practiced medicine without registering is the county wherein he resided. The law requires only one registration by a practitioner of medicine before he commences to practice medicine in Georgia, and that registration is required to be made in the office of the clerk of the superior court of the county wherein the practitioner resides.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

February 18

1 *Proper Management of Foundlings and Neglected Infants. H. D. Chapin, New York.
2 Syphilis and the Nervous System, with Remarks on the Wassermann Test and Salvarsan. W. M. Leszynsky, New York.
3 *Primary Sterility in Women. A. J. Rongy, New York.
4 Epidemic Poliomyelitis. E. E. Mayer, Pittsburg.
5 A Theory of the Etiology of Trachoma. D. S. Kanstoroom.
6 An Improvement in Audiometers. F. A. Faught, Philadelphia.

1. **Proper Management of Neglected Children.**—The plan of work followed by the Speedwell Society of Morristown, N. J., is described by Chapin; the infants are boarded out under supervision of visiting nurses. He shows that if the plan could be carried out generally in the place of institutional work for feeble, neglected babies, a large majority of them would be saved. No capital is required to be tied up in a large building or plant. The plan has proved to be economically sound as well as practically efficient.

3. **Primary Sterility in Women.**—The observations and conclusions arrived at in Rongy's paper are based on an analysis of 120 patients who presented themselves for treatment for primary sterility during the past ten years. Only those cases are included in which both husband and wife were examined. In eight patients there was sterility in either a brother or a sister. Three of these patients presented a few symptoms that pointed to some congenital defect of the genital organs. The husbands of these patients had active and living spermatozoa. Nearly 85 per cent. of the women suffered from dysmenorrhea, particularly during the first two days, a fact which goes to prove that the pain was not merely due to mechanical obstruction, but that some derangement of the genital tract, most probably of inflammatory origin, was present, for were it only of mechanical origin the pain would have ceased as soon as the full flow was established.

Most of the patients attended to their housework. Two were teaching school, six had millinery shops, eight divided their time between house work and small stores they owned, two were stenographers, one a dentist. Prior to marriage the majority of the patients had been engaged in sedentary occupations in close quarters and for prolonged hours, were rather anemic, and not in a robust state of health. Fifteen were under 20 at the time of marriage, fifty-three between 20 and 25, thirty-eight between 25 and 30, seven between 30 and 35, four between 35 and 40 and one over 40. This is the proper ratio of the ages and therefore has no special significance. While some authors state that the marriages of near relations are more likely to be barren, in Rongy's experience this is *not* the case. Nine patients practiced masturbation daily from about the age of 16 until they married. Two continued the practice after marriage, stopping during the menstrual flow only. This continued practice resulted in complete sexual anesthesia in seven patients. In the presence of vaginismus sterility is the rule. Dyspareunia is usually a very prominent symptom in sterility. Thirty-two of the patients suffered from it.

In the 120 patients who came under Rongy's observation for the treatment of sterility he found that eighty-five, or 82 per cent. of the husbands admitted having been treated for gonorrhea for a period ranging from six weeks to two years. Eighteen had double epididymitis, with absolute sterility; twenty-one had single epididymitis, with absolute sterility in nine instances; nineteen gave a history of prostatitis and seminal vesiculitis; six of whom were operated on for stricture of the urethra, and three of whom suffered from azoospermia; the remaining twenty-seven evidently had anterior urethritis only, and in all spermatozoa were found. Three patients suffered from varicocele. In one patient the removal of this cured sterility of six year's standing. All the patients had azoospermia before the operation. Spermatozoa were found in all three cases three weeks after the operation. A small proportion of husbands suffer from azoospermia and oligospermia, which cannot be accounted for pathologically, and of necessity are classified as functional disturbances only. Closer inquiry brings out the fact that usually these patients have been excessively masturbating for a long period of time, with the result that the glandular structure of the testicles cannot supply the demand made upon them. Absolute impotence was found in three patients, two as the result of organic specific disease, one as the result of excessive masturbation. It is absolutely certain, says Rongy, that nearly 60 per cent. of women who suffer from primary sterility give evidence of gonorrheal infection. Next to the inflammatory processes the various displacements of the corpus and cervix uteri are the most important etiologic factors in primary sterility.

New York Medical Journal

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12 Postdiphtheritic Paralysis of Accommodation. J. Clothier, Philadelphia.
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Boston Medical and Surgical Journal

February 16

15 The Aims and Possibilities of Neurologic Hospitals. P. Bailey, New York.
16 The New Neurologic Service at the Boston City Hospital. Its First Year's Work. P. C. Knapp, Boston.
17 The Youthful Psychopath. J. W. Courtney, *Boston.*
18 *C[illegible] Bladder Tumors. L. Davis, Boston.
19 *T[illegible] apubic Approach to Tumors of the [illegible], Boston.
20 *Present Status of Intravesical Operations for Tumors of the Bladder. *H. Binney, Boston.*
21 Examination of the Nose and Throat in Relation to General Diagnosis: Results in Asthma Following Nasal Operation. H. Z. Giffin, Rochester, Minn.

18. **Data on Bladder Tumors.**—In only twenty-eight of forty-one cases of tumors of the bladder collected from the records of the Massachusetts General Hospital by Davis were microscopic examinations of the specimens recorded. Twenty-five belonged to the epithelial group, two were sarcomata, one was a myoma—showing a great preponderance of epithelial tumors. Seventeen of the specimens of epithelial tumors which had been preserved were personally studied; six of these showed satisfactory evidence of epithelial infiltration of the bladder wall and were classed as carcinomata; eleven or nearly two-thirds, were regarded as papillomata. Thirty-seven patients were operated on; in nine the operation resulted fatally within a month, giving an operative mortality of 25 per cent. In none of the malignant cases was a radical operation, as it is now understood, attempted, but merely such palliative measures as curettage, cauterization and partial removal resorted to, with the result that death from the disease occurred in every case within six months.

Of the twenty-eight patients who survived the operation, twenty-six were traced. Fourteen, or just 50 per cent., died of the disease, one of these surviving for five years in spite of repeated recurrences before finally succumbing. Twelve patients, including those who died of other diseases, had no recurrence so far as could be learned. Nine are known to have survived the operation one year. Seven survived the operation two years. Five survived the operation eight years. Three of the latter died of other diseases, leaving two patients living and well at the time of the report, respectively eight and ten years after operation. Of the five patients who survived for eight years, in only three were there pathologic reports on the specimens removed; one was a myoma, two were papillomata. Of the eight cases of papillomata in which the specimens were personally studied by Davis, one patient died as the direct result of the operation, one died of intercurrent disease eighteen months later without evidence of recurrence, one died two months after secondary operation for recurrence, one five years later of recurrence. One patient reported perfect health one year after operation, but has not been heard from since. One patient cannot be traced; one patient is well eight years after operation. One patient operated on in 1892, and again in 1897 for recurrence, has remained well up to the present time, thirteen years since the second operation. Davis has operated on fifteen patients. Nine had papillomata. Three were cases of cancer of the nodular, infiltrating kind. There was no operative mortality in these fifteen cases. Transperitoneal cystotomy was done in five cases, and simple suprapubic cystotomy in ten.

19. **Transperitoneal and Suprapubic Approach to Tumors of the Bladder.**—Scudder finds that, practically speaking, all tumors of the bladder cause death of the patient sooner or later. The supposedly benign papilloma causes death by hemorrhage or pyelonephritis. All so-called benign tumors are potentially malignant. A papilloma which shows no sign of malignancy may become malignant. If the operative deaths and the rapid recurrences of bladder tumors are combined under the one head of operative failures, these failures have occurred in 29 per cent. of the so-called benign tumors and in 46 per cent. of the cases of carcinoma. Of the urethral operations for papilloma, only 28 per cent. of the patients remained cured more than one year. Of the partial resections, 37.5 per cent. of the patients remained well more than one year. Of fifty-three patients with papilloma operated on through the urethra or suprapubically, or by partial resection, nineteen had recurrence. The statistics of Nitze in 1901 and 1905 are not corroborated by detailed reports of the cases and Scudder regards them as unusually fortunate results. In view of the above facts pointing to the great malignancy of papilloma of the bladder, and because of the poor surgical results that hitherto have been obtained by operative treatment, Scudder believes that we should regard, from an operative standpoint, all papillomata of the bladder as potentially malignant, and that they should be treated as if they were malignant growths, whether there are evidences of malignancy *in any* individual case or not. Certain of the small, apparently benign papillomata may safely be removed by the suprapubic method, but should be removed even with this

approach by a good margin of excised, healthy tissue. The transperitoneal approach to the bladder will enable the surgeon to attack successfully cases of malignant tumor of the bladder which, without this approach, might be forced to a more dangerous extraperitoneal cystectomy.

20. **Intravesical Operations for Tumors of the Bladder.**—According to Binney, the published results of intravesical operations do not, at present, warrant the adoption of the method for the removal of primary growths, except in cases of very small tumors or in patients in whom a suprapubic cystotomy under an anesthetic is contra-indicated. In cases of repeated recurrences after suprapubic operations, the method is to be recommended over the performance of frequent suprapubic operations.

American Medicine, Burlington, Vt.

January

22 The Physician in Court. L. R. Graham, New York.
23 Indican from the Standpoint of the General Practitioner. H. R. Harrower, Chicago.
24 General Anesthesia. A. M. Hellman, New York.
25 Memorial Address of Dr. Abram Brothers. R. Abrahams, New York.
26 Acute Labyrinthine Suppuration. O. Glogau, New York.
27 Four Cases of Cesarean Section. A. J. Rongy, New York.
28 Pellagra in New Mexico. *D. H. Galloway, Roswell, N. Mex.*
29 Hernia of the Lung, with Report of a Case of Spontaneous Hernia of the Right Lung. E. Adams, New York.

Philippine Journal of Science, Manila

October

30 *Tolerance for Alkalies in Asiatic Cholera. A. W. Sellards, Manila.
31 Effect of Concentration of Solution in Collapse in Asiatic Cholera. A. J. McLaughlin and A. W. Sellards, Manila.
32 *Chemical Composition of Blood in Asiatic Cholera. H. Aron, Manila.
33 Cholera and Cholera-Like Vibrios Encountered in the Philippines. A. J. McLaughlin and E. R. Whitmore, Manila.
34 *Specific Cure of Yaws with Salvarsan. R. P. Strong, Manila.

30. **Tolerance for Alkalies in Asiatic Cholera.**—The most important findings reported by Sellards are the tolerance for alkalies and the change in the course of the disease. This tolerance, he says, may be dependent either on the cholera infection, or on the accompanying nephritis; apparently it is related more closely to the uremia than to the enteritis. The condition will be of more general interest if it proves to be present in uremia from other causes than if it is specific for cholera. Examination of the urine in cholera showed an almost constant increase in the excretion of ammonia. Cholera patients showed a definite tolerance of alkalies, a considerable excess of sodium bicarbonate being required to render the urine alkaline as compared with normal individuals. Within certain limits, the administration of alkalies not only failed to render the urine alkaline, but the acidity was even increased, as measured by titration. Following the injection of alkalies, there was sometimes a sudden and marked increase in the excretion of urea. The early administration of alkalies practically eliminated death from uremia.

The choice of alkali for treatment may vary somewhat in the different stages of cholera. The chief advantage of the normal carbonate would depend on its ability to absorb carbon dioxid, but apparently few deaths occur primarily from failure of the internal respiration. Sodium acetate may have some advantages, especially for the stage of collapse. As much as 80 grams within twenty-four hours have been injected, but perhaps this amount is slightly excessive in certain cases. As a general routine, sodium bicarbonate has been the most effective of the three salts. Its administration in collapse has several advantages and, in selected cases, concentrations of from 1 to 1.5 per cent. may be used. A weaker solution would probably be chosen which would be suitable for routine use in all cases of collapse. Early in the stage of reaction, as much as 60 gm. may be given within twenty-four hours. The most important indication for discontinuing its administration is the development of muscular cramps or twitchings. These symptoms may appear, although the urine remains acid, and may be considered as a reaction to the alkali. Several cases in which excessive amounts of alkali were tolerated without the appearance of this symptom terminated unfavorably.

There was a wide variation in the amount of alkali which resulted in the production of muscular contractions. The quantity apparently varied in direct proportion to the severity of the disease, although Loeb has shown that the precipitation of the calcium salts by a carbonate gives rise to muscular contractions. If administration of alkalies is delayed until uremic symptoms develop, secretion of urine follows promptly after injection of sodium bicarbonate, but the final termination is usually unaltered. The most important single factor in determining the amount and frequency with which alkali should be injected is the quantity of urine excreted. Sodium bicarbonate, in 1.5 per cent. solution, in 2 liter quantities, has been injected as soon as patients come out of collapse, and repeated at intervals of from twelve to twenty-four hours until a free secretion of urine follows. Aside from mild convulsions, the only other untoward symptoms following the injection of alkali was a temporary hematuria. This occurred in three of the fifty-five cases; it was slight in amount and persisted for from two to four days.

32. **Composition of the Blood in Asiatic Cholera.**—In the stage of collapse in cholera a loss of water in the blood was regularly encountered by Aron, accompanied by a corresponding loss of chlorids (salts). This water loss was constantly high in the blood of persons who died of cholera. In the later stages of the disease, the blood again shows an almost normal content of water, but the salts are not replaced to the normal amount. Therefore, the blood at this stage has a diminished salt content and is hypotonic.

34. **Specific Cure of Yaws.**—After using salvarsan in twenty-five cases of yaws, Strong believes it to be an ideal specific for this disease. Three or four days after the injection of the drug, the granulomatous lesions begin to disappear and in the course of from ten to twenty days they usually have disappeared entirely leaving a perfectly smooth, pigmented skin where the lesions previously existed. The absorption of tumor masses measuring several centimeters in diameter and about a centimeter in thickness in so short a time, and under the influence of no local treatment whatever, has been striking and surprising. Even in cases in which large granulomatous masses or deep ulcerations existed, these were healed within from two to four weeks. None of the patients has shown any signs of relapse, although each received but a single injection, and over four months have elapsed since most of them were inoculated.

Mississippi Medical Monthly, Vicksburg

February

35 The Physician's Duty to the Public. T. Purser, McComb City.
36 Uses and Abuses of Quinin. F. M. Brougher, Belen.
37 The Differential Diagnosis in Coma. A. K. Naugle, Abbott.
38 Why Doctors Should Join Their County Medical Societies. G. C. Phillips, Lexington.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

January

39 Acromegaly: Pierre Marie's Disease. P. E. Launois and M. H. Cesbron, Paris.
40 *Present Status of Drug Addiction in the United States. L. F. Kebler, Washington, D. C.
41 *U. S. P. 1910. How May It Be Constructed? O. T. Osborne, New Haven, Conn.
42 Disability from Fracture of the Femur. O. H. Allis, Philadelphia.

40. **Drug Addiction in the United States.**—The thoughtful and foremost medical men have been and are cautioning against the free use of morphin and opium, particularly in recurring pain; and the amount they are using is decreasing yearly. Kebler claims that, notwithstanding this fact, and the fact that legislation, federal, state and territorial, adverse to the indiscriminate use and sale of opium and morphin, their derivatives and preparations, has been enacted during the past few decades, the amount of opium per capita imported and consumed in the United States has doubled during the last forty years. Not only has there been this increase in the use of opium, its preparations and derivatives, but large quantities of other habit-forming drugs have been used initially, introduced chiefly for medicinal purposes. For example, cocain (cocain hydrochlorid) has been employed for about twenty-five years, and the amount consumed at present per annum is estimated at approximately 150,000 ounces, an amount ten times as great as actually needed. In addition to this, it is well-known that large quantities of acetanilid,

under 20 at the time of marriage, fifty-three between 20 and 25, thirty-eight between 25 and 30, seven between 30 and 35, four between 35 and 40 and one over 40. This is the proper ratio of the ages and therefore has no special significance. While some authors state that the marriages of near relations are more likely to be barren, in Rongy's experience this is not the case. Nine patients practiced masturbation daily from about the age of 16 until they married. Two continued the practice after marriage, stopping during the menstrual flow only. This continued practice resulted in complete sexual anesthesia in seven patients. In the presence of vaginismus sterility is the rule. Dyspareunia is usually a very prominent symptom in sterility. Thirty-two of the patients suffered from it.

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American Medicine, Burlington, Vt.

January

22 The Physician in Court. L. R. Graham, New York.
23 Indican from the Standpoint of the General Practitioner. H. R. Harrower, Chicago.
24 General Anesthesia. A. M. Hellman, New York.
25 Memorial Address of Dr. Abram Brothers. R. Abrahams, New York.
26 Acute Labyrinthine Suppuration. O. Glogau, New York.
27 Four Cases of Cesarean Section. A. J. Rongy, New York.
28 Pellagra in New Mexico. D. H. Galloway, Roswell, N. Mex.
29 Hernia of the Lung, with Report of a Case of Spontaneous Hernia of the Right Lung. E. Adams, New York.

Philippine Journal of Science, Manila

October

30 *Tolerance for Alkalies in Asiatic Cholera. A. W. Sellards, Manila.
31 Effect of Concentration of Solution in Collapse in Asiatic Cholera. A. J. McLaughlin and A. W. Sellards, Manila.
32 *Chemical Composition of Blood in Asiatic Cholera. H. Aron, Manila.
33 Cholera and Cholera-Like Vibrios Encountered in the Philippines. A. J. McLaughlin and E. R. Whitmore, Manila.
34 *Specific Cure of Yaws with Salvarsan. R. P. Strong, Manila.

30. **Tolerance for Alkalies in Asiatic Cholera.**—The most important findings reported by Sellards are the tolerance for alkalies and the change in the course of the disease. This tolerance, he says, may be dependent either on the cholera infection, or on the accompanying nephritis; apparently it is related more closely to the uremia than to the enteritis. The condition will be of more general interest if it proves to be present in uremia from other causes than if it is specific for cholera. Examination of the urine in cholera showed an almost constant increase in the excretion of ammonia. Cholera patients showed a definite tolerance of alkalies, a considerable excess of sodium bicarbonate being required to render the urine alkaline as compared with normal individuals. Within certain limits, the administration of alkalies not only failed to render the urine alkaline, but the acidity was even increased, as measured by titration. Following the injection of alkalies, there was sometimes a sudden and marked increase in the excretion of urea. The early administration of alkalies practically eliminated death from uremia.

The choice of alkali for treatment may vary somewhat in the different stages of cholera. The chief advantage of the normal carbonate would depend on its ability to absorb carbon dioxid, but apparently few deaths occur primarily from failure of the internal respiration. Sodium acetate may have some advantages, especially for the stage of collapse. As much as 80 grams within twenty-four hours have been injected, but perhaps this amount is slightly excessive in certain cases. As a general routine, sodium bicarbonate has been the most effective of the three salts. Its administration in collapse has several advantages and, in selected cases, concentrations of from 1 to 1.5 per cent. may be used. A weaker solution would probably be chosen which would be suitable for routine use in all cases of collapse. Early in the stage of reaction, as much as 60 gm. may be given within twenty-four hours. The most important indication for discontinuing its administration is the development of muscular cramps or twitchings. These symptoms may appear, although the urine remains acid, and may be considered as a reaction to the alkali. Several cases in which excessive amounts of alkali were tolerated without the appearance of this symptom terminated unfavorably.

There was a wide variation in the amount of alkali which resulted in the production of muscular contractions. The quantity apparently varied in direct proportion to the severity of the disease, although Loeb has shown that the precipitation of the calcium salts by a carbonate gives rise to muscular contractions. If administration of alkalies is delayed until uremic symptoms develop, secretion of urine follows promptly after injection of sodium bicarbonate, but the final termination is usually unaltered. The most important single factor in determining the amount and frequency with which alkali should be injected is the quantity of urine excreted. Sodium bicarbonate, in 1.5 per cent. solution, in 2 liter quantities, has been injected as soon as patients come out of collapse, and repeated at intervals of from twelve to twenty-four hours until a free secretion of urine follows. Aside from mild convulsions, the only other untoward symptoms following the injection of alkali was a temporary hematuria. This occurred in three of the fifty-five cases; it was slight in amount and persisted for from two to four days.

32. **Composition of the Blood in Asiatic Cholera.**—In the stage of collapse in cholera a loss of water in the blood was regularly encountered by Aron, accompanied by a corresponding loss of chlorids (salts). This water loss was constantly high in the blood of persons who died of cholera. In the later stages of the disease, the blood again shows an almost normal content of water, but the salts are not replaced to the normal amount. Therefore, the blood at this stage has a diminished salt content and is hypotonic.

34. **Specific Cure of Yaws.**—After using salvarsan in twenty-five cases of yaws, Strong believes it to be an ideal specific for this disease. Three or four days after the injection of the drug, the granulomatous lesions begin to disappear and in the course of from ten to twenty days they usually have disappeared entirely leaving a perfectly smooth, pigmented skin where the lesions previously existed. The absorption of tumor masses measuring several centimeters in diameter and about a centimeter in thickness in so short a time, and under the influence of no local treatment whatever, has been striking and surprising. Even in cases in which large granulomatous masses or deep ulcerations existed, these were healed within from two to four weeks. None of the patients has shown any signs of relapse, although each received but a single injection, and over four months have elapsed since most of them were inoculated.

Mississippi Medical Monthly, Vicksburg

February

35 The Physician's Duty to the Public. T. Purser, McComb City.
36 Uses and Abuses of Quinin. F. M. Brougher, Belen.
37 The Differential Diagnosis in Coma. A. K. Naugle, Abbott.
38 Why Doctors Should Join Their County Medical Societies. G. C. Phillips, Lexington.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

January

39 Acromegaly: Pierre Marie's Disease. P. E. Launois and M. H. Cesbron, Paris.
40 *Present Status of Drug Addiction in the United States. L. F. Kebler, Washington, D. C.
41 *U. S. P. 1910. How May It Be Constructed? O. T. Osborne, New Haven, Conn.
42 Disability from Fracture of the Femur. O. H. Allis, Philadelphia.

40. ***Drug Addiction in the United States.***—The thoughtful and foremost medical men have been and are cautioning against the free use of morphin and opium, particularly in recurring pain; and the amount they are using is decreasing yearly. Kebler claims that, notwithstanding this fact, and the fact that legislation, federal, state and territorial, adverse to the indiscriminate use and sale of opium and morphin, their derivatives and preparations, has been enacted during the past few decades, the amount of opium per capita imported and consumed in the United States has doubled during the last forty years. Not only has there been this increase in the use of opium, its preparations and derivatives, but large quantities of other habit-forming drugs have been used initially, introduced chiefly for medicinal purposes. For example, cocain (cocain hydrochlorid) has been employed for about twenty-five years, and the amount consumed at present per annum is estimated at approximately 150,000 ounces, an amount ten times as great as actually needed. In addition to this, it is well-known that large quantities of acetanilid,

antipyrin, acetphenetidin and diacetyl-morphin, and smaller quantities of hydrated chloral, codein, para-amino-benzol-diethyl-amino-ethanol, etc., are used. The amount of opium imported per annum during the past twenty years is slightly less than 500,000 pounds. The average yearly decrease during the past ten years is about 20,000 pounds. The present deterring factors are antinarcotic legislation and publicity.

From a comparison of the amount imported here with that in countries having efficient restrictive legislation, like Austria-Hungary, Germany, Holland, Italy and Spain, Kebler says it is clearly evident that from 80 to 90 per cent. of the opium imported is used improperly. It is variously estimated by those who are conversant with the situation that the number of drug habitués in the United States varies from 1,000,000 to 4,000,000. Most of the states have enacted laws forbidding the indiscriminate sale of cocain and cocain-bearing products, and to a certain extent this also holds true for morphin and preparations containing it. Still, in many instances, there are some features which do not render such laws as effective as they might be. Many states are enforcing local laws regulating the sale of morphin, cocain, etc., within their jurisdiction, but they are unable to control the introduction of these habit-forming drugs from localities outside of the state, and for this reason the officials find it difficult to make material headway. Manufacturers, importers and wholesalers, until recent years, have been supplying these agents to all comers, but recent activity shows that they are anxious to see the illegal use of such habit-forming drugs suppressed, notwithstanding the financial loss which they may encounter. It is a well-known fact that many wholesalers refuse to sell undue amounts of cocain to retailers, and from this it can readily be seen that there is a decided movement on foot toward suppressing drug addiction, not only on the part of the public, but also of manufacturers and dealers in these commodities.

It is well known that there are many factors at work tending to drug enslavement, among them being the host of soothing syrups, medicated soft [illegible] in, asthma remedies, catarrh remedies, [illegible] cough and cold remedies, and the more notorious drug addiction cures. It is often stated that medical men are frequently the chief factors in causing drug addiction. In order to obtain information on this subject, letters were addressed by Kebler to practicing physicians, sanitariums treating drug addiction under direct supervision, and sanitariums treating it both under direct supervision and in absentia only, throughout the United States. The data thus secured, with observations, are most interesting, but being published in tabular form cannot be abstracted.

41. Abstracted in THE JOURNAL, May 28, 1910, p. 1811.

Journal of Cutaneous Diseases, New York

February

43 Periadenitis Mucosa Necrotica Recurrens (Chronic Recurring Necrotic Granuloma of the Buccal Mucosa). R. L. Sutton, Kansas City, Mo.

44 Fibroma Molluscum, or Universal Neurofibromatosis. A. Ravogli, Cincinnati.

45 Isolation and Growth of the Acne Bacillus. E. D. Lovejoy and T. W. Hastings, New York.

46 Dr. Henry Granger Piffard: In Memoriam. G. H. Fox, New York.

American Journal of Surgery, New York

January

47 Pyuria. H. A. Kel[illegible]

48 *Pylorospasm. S. [illegible] a.

49 Transfusion of B[illegible] and Technic. J. S. Horsley, Richmond, Va.

50 Importance of Educating the Public in Regard to Cancer. S. Leigh, Norfolk, Va.

51 Gastric Symptoms from the Surgeon's Viewpoint. L. Frank, Louisville, Ky.

52 *Tumors of the Jaw Occurring Most Frequently in the Negro. W. F. Westmoreland, Atlanta, Ga.

53 Diagnosis of Obscure Cases of Appendicitis with Especial Reference to "Protective Appendicitis" (Morris). M. Rogers, Birmingham, Ala.

54 Quinin Anesthesia for Reducing Fractures, for Rectal Operations and for Prevention of Immediate Postoperative Pain in Amputation Stumps. V. Pleth and V. W. Pleth, Seguin, Texas.

55 Surgery Outside of the Hospital. J. W. Alsobrook, Plant City, Fla.

56 Eight Cases of *B. Aërogenes Capsulatus* Wound Infection. G. R. White, Savannah, Ga.

57 Cure of Stricture of the Rectum Complicating Fistulas. C. S. Venable, San Antonio, Texas.

February

58 *Intestinal Resection with a Technic Combining Murphy Button, Hartley and Lilienthal Methods. W. L. Wallace, Syracuse, N. Y.

59 *Abdominal Injuries and Their Treatment. C. H. Goodrich, Brooklyn, N. Y.

60 Medicolegal Aspect of Roentgen Rays from the Standpoint of the Surgeon. R. D. Mason, Omaha, Neb.

61 Metatarsalgia. H. C. Riggs, Brooklyn, N. Y.

62 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.

63 Treatment of Acute Gonorrheal Urethritis. P. D. Littlejohn, New Haven, Conn.

64 A Case of Osteitis Deformans. N. P. Rathbun, Brooklyn, N. Y.

48 and 52. Abstracted in THE JOURNAL, Jan. 14, 1911, pp. 142 and 143.

58. **Intestinal Resection.**—When making an intestinal resection, Wallace found that a lateral anastomosis with a Murphy button by a certain method may be done with such rapidity that an immediate resection may safely be accomplished. He uses the Hartley method in making the lateral anastomosis, dropping half of a Murphy button into each end of the gut which is left after resection, and, after closing the ends of the gut by the Lilienthal method, pushes the halves of the button together. Lilienthal simply ties off the gut with twine instead of turning in or sewing up the end. Wallace has now used it six times with six successes. In three cases of strangulated hernia, he resected, made a lateral anastomosis with the Murphy button by the Hartley method, tied off the ends of the gut with fine linen or silk by the Lilienthal method, cut off the ends of the silk short and dropped the gut back, closing the abdomen without a drain. In another case of strangulated hernia he did the same, except that on account of the evident infection, he left a rubber drain down to the closed peritoneum. In one case of tuberculous salpingitis in which resection of the gut was necessary, it was accomplished in this way without drainage. In one case of appendicitis, in a child of 8, the end of the cecum, 1½ inches above the root of the appendix, together with the appendix and its mesentery, were tied off with one ligature and cut away.

59. **Abdominal Injuries.**—Goodrich urges an immediate aseptic abdominal section in every doubtful case of abdominal injury. Some of the important points in the surgical treatment of abdominal injuries are explained by him as follows:

1. Apply active measures to overcome or lessen shock, unless signs of active hemorrhage make quick action imperative. A reasonable time (one-half to three hours) may be allowed in cases of profound shock, to promote a helpful reaction.

2. Cleanse the skin as thoroughly and as widely as in any other abdominal case, notwithstanding the presence of indication for rapid work.

3. Precede an exploration by an intravenous saline infusion or a transfusion of blood when symptoms of hemorrhage are marked. As Crile has noted, "We may in this way transform a hopeless case into an average risk."

4. Make the search for intra-abdominal injuries thorough and systematic.

5. Cleanse the peritoneum thoroughly of septic material and blood, or fluid of any kind. This is best done by large gauze sponges, followed by copious irrigation, leaving the abdomen partly filled with saline solution.

6. Secure absolute hemostasis and water-tight repair of all wounds and ruptures.

7. Introduce drains whenever viscera have been penetrated or ruptured.

8. Use intravenous infusions of normal saline solution freely postoperatively in cases of marked shock or acute anemia.

9. Adopt the Fowler position and the ice coil in all cases as soon as reaction from shock is obtained.

10. If intestinal paresis supervenes, lavage every four hours will accomplish more than enemata.

Goodrich records a recent recovery from intestinal paresis so extreme as to be accompanied by frequent fecal vomiting, by the use of this measure.

Maryland Medical Journal, Baltimore

February

65 Importance of Direct Endoscopy in General Medical Practice. J. R. Winslow, Baltimore.

66 Medical and Surgical Aspects of Tumors, Including Inflammatory and Neoplastic Formations. J. C. Bloodgood, Baltimore.

67 Advantages of Decompression in Treatment of Head Injuries. A. McGlannan, Baltimore.

68 The Faucial Tonsil—Its Relation to Systemic Disease and Results of Its Removal. S. Rosenheim, Baltimore.

Journal of Biologic Chemistry, Baltimore

December

69 The Refractive Indices of Certain Proteins: Serum Globulin. T. B. Robertson, San Francisco.

70 The Nitrogen Metabolism of the Coyote. A. Hunter and M. H. Givens, Ithaca, N. Y.

71 Comparative Analysis of the Urine of the Fox, Dog and Coyote. P. B. Hawk.
72 Fermentation of Citric Acid in Milk. A. W. Bosworth and M. J. Prucha, Geneva, N. Y.
73 Determination of Inorganic and Organic Phosphorus in Meats H. S. Grindley and E. L. Ross.
74 *Persistence of Strychnin in a Corpse. M. P. Cram and P. W. Meserve.
75 Determination of Ammonia in Urine. O. Folin, Boston.
76 Determination of Total Sulphur in Urine. S. R. Benedict, New York.
77 Conception and Definition of the Term "Catalysor." A E. Taylor.
78 Refractive Indices of Certain Proteins: Casein in Alcohol-Water Mixtures. T. B. Robertson, San Francisco.

74. Persistence of Strychnin in a Corpse.—On Nov. 15, 1909, a man of 53 died under suspicious circumstances. The body was buried on Nov. 19, 1909; on November 29 of the same year it was disinterred, and certain organs removed and sent to the late Franklin G. Robinson for analysis. Professor Robinson's notes record that he found strychnin, but, owing to illness, he was unable to appear personally at the trial. The body, therefore, was exhumed a second time on March 18, 1910, the other organs removed which were sent to Cram. The body had been frozen most of the time, but the grave when opened was full of water, which was allowed to drain off. An embalming fluid of acid reaction had been used when the body was first buried, which made it appear likely that any strychnin would be dissolved out. The method used for determining strychnin was the usual one of extracting with alcohol made acid with acetic acid, evaporating the extract to soft dryness, extracting the residue with water, extracting the acid water solution with chloroform, and then the same solution made alkaline with chloroform, the strychnin coming out in the last chloroform extract. The strychnin was then purified by absolute alcohol. From 454 grams of the lung, 133 grams of kidney, 446 grams of muscle, 850 grams of small intestine and 560 grams of brain, each being tested separately, no strychnin was obtained. From 803 grams of liver was obtained 0.0015 gram of strychnin, and from the spinal cord 0.0033 gram. The spinal cord itself weighed 25 grams. The note-books of Professor Robinson record that in 290 grams of stomach contents he found 0.0277 gram of strychnin, and in 45 grams of kidney 0.0003 gram of strychnin. The spinal cord, being better protected from the action of the water in the grave, which was acid from the embalming fluid, had retained the strychnin better than the other parts.

West Virginia Medical Journal, Wheeling

February

79 Pathology, Symptomatology and Diagnosis of Diseases of the Prostate. G. Timberlake, Baltimore.
80 Glaucoma. E. A. Hildreth, Wheeling.
81 The Physician—His Legal Rights and Responsibilities. T. Morrison, Keyser.
82 The Internal Secretions. G. D. Lind, Greenwood.
83 Hyperemia as a Curative Agent. H. G. Nicholson, Charleston.
84 Local Anesthesia in Rectal Work—Its History and Its Indications. J. M. Lynch, New York.

American Journal of Diseases of Children, Chicago

February

85 *Congenital Stenosis of Pylorus. A. D. Bevan, Chicago.
86 *Cerebrospinal Meningitis, Its Etiology, Diagnosis, Prognosis and Treatment. C. H. Dunn, Boston.
87 *Relation Between Carpal Ossification and Physical and Mental Development. E. Long and E. W. Caldwell, New York.
88 *Frequency and Significance of Albumin in the Urines of Normal Children. S. McC. Hamill, Philadelphia, and K. D. Blackfan, Cambridge, N. Y.

85. Congenital Stenosis of the Pylorus.—Bevan's conclusions are that congenital pyloric obstruction is a definite, well-established pathologic condition; that it produces, for him who has seen it, an easily recognized clinical picture; that it can, as a rule, be differentiated from other conditions simulating it; that if early recognized it can be permanently relieved by overcoming the obstruction by modern surgical methods; and that the individual so saved can grow up and develop in a perfectly normal way.

86. Cerebrospinal Meningitis.—The specific methods of treatment which in Dunn's opinion are available in the various forms of cerebrospinal meningitis, and which should be more widely tried, until further evidence proves or disproves their value, are: tuberculous—early and repeated lumbar puncture; epidemic—antimeningitis serum; pneumococcus—antipneumococcus serum; streptococcus—antistreptococcus serum; influenza—early and repeated lumbar puncture; staphylococcus—homologous vaccine.

87. Carpal Ossification and Physical and Mental Development.—The investigations described by Long and Caldwell were made with a view to applying the ingenious method proposed by Rotch, that the stage of ossification of the carpal bones as determined by the radiograph may be used to standardize or grade growing children as to their capacity for physical and mental work. As a result of their investigation, Long and Caldwell are led to believe that the ossification of the one wrist of an individual is not the exact index of the ossification of the other wrist, and therefore it seems probable that the same inexact relation exists between the wrist and the remainder of the skeleton. Age, height and weight increase in general with advance in carpal ossification, but with many exceptions among both sexes. It would be impractical at least to regulate the mode of life of these children according to this classification alone, e. g., Class B includes a very bright child, 2 years, 6 months and 15 days old, and a very dull child of 6 years, 7 months and 29 days: Class D includes a child of fair intelligence, 2 years, 2 months and 2 days old, with a very bright child of 7 years and 29 days. They can find no relation between the degree of carpal development and quality of mind. Some idiots are as far advanced in carpal ossification as some normal children of good mentality and similar chronologic age. The relation between the stages of puberty and those of carpal ossification is too indefinite to warrant the latter's use as an index of physiologic development. And, finally, though carpal development alone is not an exact index, still when observed at intervals, and considered with other factors, it may become an aid in estimating the rapidity of growth of the skeleton in children. They believe that closer attention should be paid by the medical profession to the regulation of physical and mental tasks more in accordance with the individual child's capacity, and that development of the ossification centers of the skeleton may become a factor, toward this result.

88. Albumin in the Urine of Normal Children.—In each specimen of urine, Hamill and Blackfan determined the color, the appearance, the specific gravity, the reaction (in twenty-four-hour specimens, the total acidity), the presence or absence of albumin, sugar, acetone, diacetic acid, indican, urobiligen and phenol; and microscopically, the presence or absence of cells, casts, cylindroids and crystals. Four hundred and forty-five specimens of urine were examined. These were obtained from 124 children, ranging in age from 18 months to 14 years. During the period of examination the usual routine of life was followed, except that the children were kept from school. There was no relationship between the specific gravity and the form or amount of albumin. The reaction had no influence on the production of albumin. Sugar, acetone and diacetic acid were never found. They may, therefore, be considered as having no bearing on the production of albumin. Indican, phenol and urobilinogen, when present, were usually associated with albumin, but albumin was sometimes absent when they were all present, and the amount was never greater when associated with them than it was in the cases in which they were absent. Crystals, when present in amounts, such as are occasionally found in normal children, are in no way responsible for the associated albumin. The mild disturbances of the intestinal digestion, as shown by the examination of the stools, were not sufficient to account for the occurrence of albumin. The blood-pressure was within the normal range in all cases and, therefore, did not influence the albumin output. The albumin elimination was the same on mixed and exclusive milk diets. They found no children in whom the albumin excretion corresponded to the requirements for postural or orthostatic albuminuria, a rather surprising result in view of the frequency with which this condition is supposed to occur.

Thirty-two and one-half per cent. of the children showed occasional, hyaline casts and cylindroids in the urine. The authors do not consider their "occasional presence" as indicative of a lesion of the kidneys, but rather as suggesting a temporary overtaxation of the kidneys resulting from variations in the habits of life of the individuals, which are too slight to be recognized. Eighty-eight and seven-tenths per cent. of the urine of these 124 children showed albumin, 27.4 per cent. showed serum-albumin alone and in combination; and 85.4 per cent., an albuminous body precipitated by acetic acid in the cold. These two albumins were nearly always present in very slight traces, occasionally in slight traces and rarely in traces. In thirty-eight children the twenty-four-hour specimens showed nucleo-albumin in all but one, and in this case samples examined over prolonged periods of time showed nucleo-albumin frequently. In these thirty-eight children, the percentage of serum-albumin was very much larger (42.1 per cent.) than in the total number of cases examined. The authors believe, therefore, that it is possible to demonstrate in the urine of every presumably healthy child traces of an albuminous body precipitated by acetic acid. Consequently, this substance must be regarded as an exceedingly common, if not constant manifestation in the urine of children under 14 years of age, and as of no clinical significance. Hamill and Blackfan do not believe that serum-albumin in the amounts in which it appears in these children indicates a diseased condition of the kidneys any more than does the presence of occasional hyaline casts and cylindroids, and that its etiology may be considered the same as that given for these former elements.

Journal of the Medical Society of New Jersey, Orange

February

89 The Nasal Accessory Sinuses and the Eye. G. H. Ward, Englewood.
90 Injury to the Eye from Burns, Scalds and Chemicals. C. J. Kipp, Newark.
91 The Accessory Sinuses. T. R. Chambers, Jersey City.
92 A Few Fundamental Principles Applicable in Treatment of Diseases of Disturbed Metabolism. H. Beates, Philadelphia.
93 Indications for Operating in Extra-Uterine Pregnancy W. O. La Motte, Riverside.

California State Journal of Medicine, San Francisco

February

94 [illegible] ncy, San Francisco.
95 [illegible] A. J. Zobel, San Francisco
96 [illegible] non and Some of the Modifying [illegible] o Alto.
97 [illegible] ge to Chronic Appendicitis. C.
98 Determination of Pus in Diseases of the Accessory Cavities of the Nose. H Horn, San Francisco.
99 *Unusual Manifestations of Defective Feet. J. T. Watkins, San Francisco.
100 *Etiology and Treatment of Enuresis. E. C. Fleischner, San Francisco.
101 Criminal Abortion. J. H. Barbat, San Francisco.
102 Ophthalmologic Cases: Convergent Strabismus. F. A. Hamlin, San Francisco.
103 Rest in Treatment of Pulmonary Tuberculosis. R. A. Peers, Colfax.
104 Primary Carcinoma of Bronchus in the Mediastinum. H. R. Oliver, San Francisco
105 Crusade Against the Anopheles. T. B. Reardan, Oroville.
106 Uncinariasis Among Mexican Track Laborers. J. W. Colbert, Albuquerque, N. Mex.

99. **Manifestations of Defective Feet.**—Watkins emphasizes the importance of always being on the outlook for what is called "pronated foot," a condition which is capable, without presenting subjective local manifestations, of giving rise to remote symptoms mistakable for those of lesions so dissimilar as sciatica, coccygodynia, uterine relaxation and allied disorders, a variety of backaches and spinal osteo-arthritis. The treatment of those defects for which pronated foot may be mistaken is either operative or mechanical. The explanations of the various subjective symptoms of pronated foot are found in the disturbances it inaugurates in the normal mechanics of the erect attitude. Watkins reports several cases in point and discusses the mechanism of walking from the anatomic viewpoint.

100. **Etiology and Treatment of Enuresis.**—With the object of determining the value of thyroid treatment of enuresis, Fleischner treated ten patients as follows: One-fourth grain thyroid extract was given three times a day, increasing to ½ grain three times a day. Fluids were not allowed after 4 p. m., and the foot of the bed was decidedly elevated at night. Of these ten patients, eight improved; two did not improve. Of the eight who improved, in four cases circumcision had been previously performed without result. Fleischner believes that the postural and dietetic treatment are of undoubted value; their action is, naturally, combined. Mothers are advised to give the children no fluid beyond a glass of milk for the evening meal, after 4 in the afternoon; then they are told to place blocks under the foot of the bed so that that part is raised about 8 inches. The object of this is to keep the urine from coming down and irritating the neck of the bladder, and it is often efficacious.

Military Surgeon, Washington, D. C.

February

107 *Aneurysms in the U. S. Army Medical Museum. D. S. Lamb, Washington, D. C.
108 Elementary Suggestions Regarding Plans for Our Large Naval Hospitals. F. S. Nash, U. S. Navy.
109 The New Type Naval Hospital. A. W. Dunbar, U. S. Navy.
110 The Sanitary Officer. W. W. Reno, U. S. Army.
111 Report of Venereal Diseases at Camp Stotsenburg, Pampanga, P. I. W. H. Wilson, U. S. Army.
112 Features of the Hernia Operation. A. McGlannan, N. G., Md.
113 Cases of Tuberculosis Sinuses Treated with Bismuth Paste. A. G. Chittick, N. G., Ind.
114 Report of Tropical Disease Board. Observations at Hanoi and Haiphong, Tonkin Province. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. Army.

107. Also published in *Washington Medical Annals*, January, 1911, and abstracted in The Journal, Feb. 11, p. 455.

Western Medical Review, Omaha, Neb.

February

115 *Stenosis of the Lower End of the Esophagus. H. L. Akin, Omaha.
116 Appendicitis. A. I. McKinnon, Lincoln, Neb.
117 Timely Ethical Problems. W. G. Hiltner, Lincoln, Neb.
118 Salvarsan in Syphilis. E. J. Angle, Lincoln, Neb.

115. **Stenosis of Lower End of Esophagus.**—Three cases are reported by Akin. He emphasizes several points, first of which is the importance of having the proper kind of bougie. The only reliable instrument, in his opinion, is a long 24 or 25-inch whalebone bougie, stiff enough so that it will not bend, but will go straight through where it is directed. His second point is the use of the silk thread swallowed the day before so as to allow it to become firmly engaged in the bowel below the stomach. This is a simple but highly commendable procedure, he asserts, because it enables the operator to introduce the bougie or dilator directly to the permeable point of the stricture and to use such force as is required to pass on into the stomach with a certain knowledge that his instrument is not going to deviate to the right or left and perhaps make false passage into the lung or pleural cavity. Akin favors dilatation of the stricture whenever this is possible.

Journal of the Michigan State Medical Society, Battle Creek

February

119 Surgical Treatment of Goiter. C. D. Brooks, Detroit.
120 Acute Poliomyelitis. G. L. Connor, Detroit.
121 Phases of Psychotherapy. C. W. Hitchcock, Detroit.
122 *A Business Man's Cold. J. V. White, Detroit.
123 Indication for Prostatectomy. F. B. Marshall, Muskegon.
124 Spina Bifida. N. S. MacDonald, Hancock.
125 Pregnancy and Fibroid Tumors of the Uterus. W. P. Manton, Detroit.

122. Abstracted in The Journal, Oct. 29, 1910, p. 1587.

Interstate Medical Journal, St. Louis

February

126 *Alterations of the Circulation in Goiter. C. C. Guthrie and A. H. Ryan, Pittsburg, Pa.
127 Abdominal Pain. H. A. Kelley, Baltimore.
128 Tuberculosis as it Concerns the Physician. L. F. Flick, Philadelphia.
129 A Frequent Etiologic Factor, Common to Facial Malformation and Acute Infectious Diseases. H. A. Potts, Chicago.
130 Uterine Hemorrhage: Its Relation to Uterine Cancer. F. Hinchey, St. Louis.
131 Artificial Feeding of Infant: Danger of Deficient Proteids. D. J. M. Miller, Atlantic City, N. J.
132 Case of Undescended Testicle. C. H. Chetwood, New York.

126. **Alterations of the Circulation in Goiter.**—Guthrie and Ryan record additional observations on the results following alterations of the circulation in goitrous thyroids, and further discuss these results in the light of other observations and considerations with a view of determining the factors concerned in their production. They found that marked anatomic changes occur in enlarged or goitrous thyroids of dogs after alteration of the circulation. The greatest changes observed occur when the circulation is reversed in the inferior thyroid vein by anastomosing this vein with the central end of the common carotid artery, or by making the anastomosis of the artery with the peripheral end of the internal jugular vein

below the point of origin of the inferior thyroid vein. The gross changes consist of a temporary swelling, followed by a marked decrease in size of the lobe on the operated side. The lobe feels much harder and denser. Microscopically, if the goiter be of the hyperplastic type, generally more normal staining colloid is seen after the operation; while if the goiter be of the colloid type, a decrease in the colloid substance is observed. In both cases the operated lobes in size, physical properties and histologic structure tend to revert to the normal. The authors believe that the change may rationally be interpreted from the standpoint of primary interference with the respiration of the tissues, which results in the death, disintegration and disappearance of abnormal tissue constituents. Also, accompanying the secondary effects due to the reactions of the tissues, absorption is probably increased so that the abnormal substances are quickly moved from the gland which accounts for their rapid disappearance. The more nearly normal tissue elements being more resistant or perhaps more favorably situated to revive, under the more nearly normal circulatory conditions established through the reaction of the tissues to the adverse condition, which indeed is strikingly similar to the current conceptions of an inflammatory reaction, resume and retain a more nearly normal function.

The reaction set up in the tissues is explainable as being due to the edema. But this may be only the indirect cause, for the accumulation of metabolic products together with substances originating from the death of tissue elements would probably act either together or the latter alone, more directly in producing an inflammatory reaction. On the whole, the results indicate that general symptoms of goiter are at least in part associated with deranged functions of the thyroid apparatus.

New Orleans Medical and Surgical Journal

February

133 Causes and Treatment of Backache in Women. A. de Roulet, Chicago.
134 Salvarsan in Syphilis. A. Nelken, New Orleans.
135 Treatment of Cardiac Insufficiency. J. B. Guthrie, New Orleans.
136 The Biology of *B. Lepræ*. C. W. Duval, New Orleans.
137 Practical Use of the Cystoscope in Differential Diagnosis. R. G. Holcombe, Lake Charles, La.
138 Problems in Obstetrics. E. M. Ellis, Crowley, La.
139 Advisability of Immediate Repair of the Cervix Uteri After Delivery. P. B. Salatich, New Orleans.
140 Toxemia of Pregnancy, Its Nature, Cause and Treatment. O. W. Cosby and R. H. Blackman, Monroe, La.
141 When Is Gonorrhea in Women Cured? W. B. Chamberlin, New Orleans.
142 Ligation of the Ovarian Vein for Thrombophlebitis of Puerperal Origin. C. J. Miller, New Orleans.
143 Removal of a Ninety-Five Pound Fibroid of the Uterus. H. S. Cocram, New Orleans.
144 Hygiene and Sanitation. I. J. Newton, Monroe, La.

Virginia Medical Semi-Monthly, Richmond

February 10

145 Case of Adams-Stokes Syndrome. T. C. Harris, Kenbridge.
146 *Advanced Extrauterine Pregnancy. S. C. Carson, Greensboro, Ala.
147 Treatment of Some Forms of Cardiac Failure. L. F. Barker, Baltimore.
148 *Peculiar Elongated and Sickle-Shaped Red Blood-Corpuscles in a Case of Severe Anemia. R. E. Washburn, Charlottesville.
149 Mastoiditis: Report of the Last Year's Work. W. F. Mercer, Richmond.
150 Work Done on the Verumontanum. L. T. Price, Richmond.

146. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1133.

148. **Peculiar Red Blood-Corpuscles in Severe Anemia.**—This patient has been under observation, at intervals, since 1907. She is a negress, aged 25, a native of southwestern Virginia and has lived there all her life. When first seen, Oct. 25, 1910, she complained of weakness, soreness and pain in the left side, and a sore on the left leg. She has never had good health. When a child she had measles. Menstruation began when she was eighteen and has been fairly regular, normal in amount, and with little pain. When a small girl, she had pneumonia, with pleurisy on the left side, and claims to have had pain in that side since that time. Three times within the last five years she has had chills and fever, supposedly malaria. She has never had rheumatism. There is no history of a chronic cough, but she is often troubled with epistaxis and sometimes spits up bloody mucus. She has shortness of breath on exertion, night sweats, and sleep starts, and is also troubled with swelling about the wrists and ankles. After eating, she occasionally has severe abdominal pain and is often troubled with indigestion and constipation. There is no history of any kidney or bladder trouble, gonorrhea or syphilis. The woman is a cook and has always done house work. In September, 1910, she weighed 155 pounds, but has fallen off since that time.

About five years ago she first noticed that she became dizzy and short of breath on slight exertion; and was also troubled with swelling in the feet and ankles. About the same time, she knocked the skin off of the left shin and the wound became infected, causing a bad ulcer. Some time after this an ulcer started on the right leg, though she does not remember having hurt it. She was also troubled with severe pains in the abdomen. These pains would start on the left side and radiate to the region of the liver, and were sharp and stabbing in character. She returned to her home in December of the same year feeling much improved. In March, 1908, she was operated on for gall-stones, 107 being removed. She continued to have good health until the following April; at which time she complained of severe pain in her left side. This pain was more or less constant, worse in the day than at night, and also increasing on taking a deep breath and on pressure. She also complained of being constipated—the pain being worse then than when the bowels moved regularly. Physical examination showed the mucous membranes to be pale; tongue coated; lungs and liver negative. The heart was slightly enlarged, with a systolic murmur heard best at the apex and transmitted to the axilla. The average temperature ranged from 99 to 100 F., pulse from 80 to 100, blood pressure was 105. Blood examination, April, 1909, showed: red cells, 2,000,000; white cells, 11,000; hemoglobin (Sahli), 50 per cent. Differential white count was as follows: polymorphonuclears, 63 per cent.; small mononuclears, 25 per cent.; eosinophils, 4 per cent.; mast cells, 6 per cent. The red cells showed poikilocytes in a variety of shapes, the most common variety being of a crescent shape. At several subsequent examinations cells of the same shape were found.

St. Paul Medical Journal

February

151 Prognosis in the Initial Stages of General Paresis. C. R. Ball, St. Paul.
152 The Southern Minnesota Medical Association. W. T. Adams, Elgin, Minn.
153 The Minnesota Valley Medical Association. E. J. Davis, Minnehaha, Minn.
154 Then and Now: The Medical Profession in Minnesota Thirty Years Ago and Its Standing at Present. J. W. Andrews, Mankota, Minn.
155 Jaundice. J. S. Gilfillan, St. Paul.

Louisville Monthly Journal of Medicine and Surgery

February

156 Chronic Lesions of the Stomach. J. G. Sherrill, Louisville.
157 A Case of Glanders in a Physician. C. Skinner, Louisville.
158 The Medical Profession Must Change Its Tactics. W. J. Robinson, New York.

Colorado Medicine, Denver

February

159 Present Status of Bottle Feeding in Normal Infants. W. T. Little, Canon City
160 Management of Difficult Cases of Bottle Feeding. H. B. Whitney, Denver.
161 Management of Breast Feeding. G. H. Cattermole, Denver.
162 Vaccine Therapy: Theories [illegible] ilures. G. B. Webb and G. B. Gilbert,
163 Infantile Indigestion. F. P

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 4

1 *Medical Organization. W. Osler.
2 Anatomy and Morbid Anatomy in Clinical Surgery. C. B. Lockwood.
3 *Treatment of Gout and Rheumatism by Radium. W. His.
4 *Mechanical Effects of Right-Sided Pleural Effusion. A. C. Geddes.
5 *Treatment of 300 Nevi by Freezing. J. L. Bunch.
6 *Carcinoma of the Stomach in a Youth of Nineteen. J. R. C. Canney.
7 History of Yellow Fever in West Africa. Sir R. Boyce.
8 High Temperature After Labor and Its Treatment with Acetyl-Salicylic Acid (Aspirin). G. H. Fink.

1. **Organization in the Profession.**—Osler points out that there is an organization in the profession and an organization of the profession—the one deals with the mutual relations of medical men with each other and with the public, the other is concerned with his relations to the state, and with the faculty of medicine in its corporative capacity. There are numerous organizations, but the profession is not yet self-controlled through any one representative body, as it certainly should be in this democratic age. Than medical practitioners, says Osler, no men need more acutely the benefits of cooperation, and yet they are notoriously difficult units to unite. Once split off from the parent college or school, a majority of practitioners live lives of isolation, often, indeed, of great loneliness. Even in a city a very busy man may see surprisingly little of his colleagues and, what is worse, he may desire to see still less. Of the value to the local practitioner of a medical society and of a library all are agreed. The medical society may do three things. It is the most important single factor in the promotion of that unity and good fellowship which adds so much to the dignity of the profession. The second great function is postgraduate instruction; to each member the medical society should be a sort of clearing-house of his clinical experience. A third equally important function is the support of a library. A few good journals and the new books are all that the members should ask of the library committee. Osler then deals more particularly with the function of the county hospital in postgraduate education. As a class, he says, physicians do not appreciate enough the importance of continuous education in their professional life. To be up to date a man must keep in touch with the advance guard of the profession, and this is not easy to do in any course of reading, however thorough; he must come in contact with the men who are doing the work. While it is not too much to ask that a man should break away every few years from the routine of practice and go to a postgraduate school, there is another and easier way—the postgraduate school may be brought to him. Here comes in a function of the first importance in a county hospital, one can do his own postgraduate work.

3. **Radium in Gout and Rheumatism.**—Of 100 patients with chronic rheumatism treated by His with radium, forty-seven were improved, twenty-nine were considerably improved, five nearly cured, thirteen were uninfluenced by the treatment, and the result was not apparent in six. There were several cases of myalgia. A few of these patients have reacted in a most marked manner to the radium treatment, others were improved, and others, again, were absolutely uninfluenced. On the whole, His found that the younger the individual, the less advanced the illness, the better the results. Even in very long standing cases alleviation of pain may, at all events, be looked for. The results in gout were more striking. He was able to observe and treat twenty-eight patients for a considerable period. Of these four remained unaffected, while in twenty-four great improvement in the condition was achieved. Some of the patients have remained free from symptoms for a year after the termination of treatment. His was in a position to examine the blood for uric acid, both before and after the treatment, in eighteen cases. In fifteen the desired result was effected promptly; in a severe case of gout the blood was found to be free from uric acid after fourteen days' treatment by drinking water containing radium. He observed tophi in the ear disappear on two occasions during the treatment. The clinical improvement, however, did not always run parallel to the uric acid content of the blood. His noted marked improvement in a patient who was energetically treated, in spite of the fact that the blood retained its uric acid. In another patient, who had gouty nodules all over the body, no uric acid was present in the blood either at the beginning or toward the end of the treatment, and yet the patient had one attack after another during the entire time. In the majority of cases, at all events, His concludes that in the treatment of gout radium is a very powerful remedy, even if some persons are refractory to the treatment.

4. **Right-Sided Pleural Effusion.**—As a result of the consideration of his cases, Geddes is confirmed in his opinion that one cause of sudden death in cases of right-sided pleural effusion may well be occlusion of the great veins as they approach the heart, and more especially occlusion of the inferior vena cava.

5. **Treatment of Nevi by Freezing.**—Bunch has successfully treated with carbon dioxid 300 nevi of various extent and size. Most of these lesions were sources of disfigurement, many of them being on the face; but some were in positions where only a sentimental feeling on the part of the parents, and no cosmetic necessity, seemed to make their removal desirable. Such were nevi of the vulva, of the penis, and of the margin of the anus, and they were interesting from the point of view of the possibility of sepsis; but Bunch has not seen one in these positions which gave any trouble or failed to react in the ordinary way or to heal up normally. Most of these patients were treated at the hospital and included capillary, stellate, cavernous and pigmented nevi; some were small and some were several inches in diameter, flat, or markedly raised above the adjacent healthy skin, forming prominent red or purple swellings. For all such cases, Bunch says, treatment by solid carbon dioxid cannot be improved on, but for large port-wine stains, involving part or whole of one side of the face, where a considerable area has to be treated at a single application, he prefers to employ liquid air.

6. **Gastric Cancer in a Youth.**—One of the chief points in this case is that it illustrates how misleading the abnormal age incidence of a disease may be in coming to a correct diagnosis. The temporary improvement, with proper medical care and nursing in the earlier stages of the case, is remarkable.

Lancet, London

February 4

9 Color Vision and Color Blindness. F. W. Edridge-Green.
10 The Position of Sir Charles Bell Among Anatomists. A. Keith.
11 Treatment of Extensive Dental Caries in Children by Tooth Extraction. J. F. Coyler.
12 *"X" Bodies in Human Blood. A. Balfour.
13 Cases Illustrating Effects of Hyperemia by Elastic Bandage on Ununited Fractures. A. E. Barker.
14 Treatment of Skin Diseases by Hyperemia. W. K. Sibley.
15 *Magnesium Sulphate in Erysipelas. N. H. Choksy.

12. **"X" Bodies in Human Blood.**—These bodies were found in blood-slides made from a patient who was suffering from urticaria nocturna. The disease was of four months' standing. The patient was a white woman, aged about 18, married, and nursing a child 1 year old; the child was healthy. Every evening about 7 o'clock flat, solid, more or less elevated wheals, irregular in size and shape, began to appear all over the body. These wheals disappeared and others appeared till the early morning, when the eruption began to diminish, and about sunrise nothing was left and the patient looked normal, like any other person. The eruption was accompanied by a severe itching and burning sensation; there was no fever and no disturbance of any of the systems of the body. In one of the films, Balfour found typical "X" bodies in considerable numbers, free, and occasionally lying on the red cells. A fairly common form was a small body about one-eighth the size of a red corpuscle, spherical in form, and consisting of a faint capsule with a circular center staining deep blue. The majority, however, had centers more of a pale lilac than a blue color, and contained faintly staining material between their capsules and their centers. What may be called large and intermediate forms of a similar form were present, but in the former the capsule was not so defined, the appearance being rather that of a halo of more faintly staining substance surrounding a deeply stained spherical core. Very few forms with concentric rings were observed; and only one or two of large "solid" coccus-like type. Bodies described as fragmented were encountered. Some of these had only a chip, as it were, broken from them, or looked like biscuits from which one had bitten out a piece. Distinctly oval forms were seen, usually of considerable size, and also a curious oblong appearance. Small forms measuring 3 μ in diameter were met with, one of which showed a segmentation of the central spot into four; another no dark center, but dark spots at its periphery; and yet another a kind of inner capsule. Many of the smaller forms were homogeneous, showing no dark centers whatever, while some of the larger forms, with distinct cores, showed granular material between their

capsules and their centers. In this there were sometimes small blue spots or granules. Others, again, were irregular in shape, being what may be called "knobbed" bodies. Balfour found no trace of chromatin in these bodies; but lying free, there was a considerable amount of amphorous-looking material which took on a pale lilac stain like some of the smaller bodies. This was more plentiful in that part of the film where the bodies occurred. It will be seen, then, that the bodies are pleomorphic, although quite distinct from all the blood elements, and readily recognizable as specific entities.

15. **Magnesium Sulphate in Erysipelas.**—Four cases are reported by Choksy in which the immediate effects of the application of magnesium sulphate solution were extremely beneficial. Pain and swelling abated, fever decreased, and extension of the disease was controlled in the majority of cases. *A saturated solution of magnesium sulphate in water* (preferably strained through muslin) was applied round the limb or on the face as a mask, extending well beyond the inflamed area, in from 10 to 15 layers of gauze or a thin layer of absorbent cotton or lint, and covered with oiled-silk or wax paper. The dressing should be wetted as frequently as *it gets dry, about once in two hours. It should be removed* once in twelve hours for inspection and immediately reapplied. The affected area should not be washed during treatment.

Journal of Tropical Medicine and Hygiene, London

February 1

16 Trypanosome Diseases of Domestic Animals in Uganda. Sir D. Bruce.
17 Tropical Life as It Affects Life Insurance. J. Cantlie.

Australian Medical Journal, Melbourne

December

18 Tick Fever or Spirillosis and Monadinitis of Fowls. A. A. Brown.
19 Case of Gunshot Wound of the Heart. C. H. W. Hardy.
20 *Autoplastic Ovarian Transplantation and Its Clinical Significance. J. H. Nattrass.
21 *General Anesthesia. R. W. Hornabrook.
22 *Treatment of Acute Pneumonia by Continuous and Persistent Diaphoresis. G. M. Reid.

20. **Autoplastic Ovarian Transplantation.**—Nattrass is convinced that it is possible to remove the ovary from its normal position in the female body and to transplant it on to other tissues. In the experiments performed by him, ovaries were successfully grafted on to the kidney, spleen, subcutaneously on the external oblique muscle, on the peritoneum, periosteum and the external intercostal muscles. When the transplanted ovary is examined in the early stage, it is found to be firm in consistence, whiter and slightly larger than normal. This is shown by the microscope to be due to swelling of the cells of the stroma, which have undergone fatty degeneration. This degenerative change was found to be present in most of the specimens examined. The amount seems to be inversely proportional to the vascularity of the tissues receiving the graft, and directly proportional to the thickness and density of the graft itself. Thus there was more degeneration in a subcutaneous, than in a renal or splenic graft. In the older grafts there is a diminution in the size of the ovary. There is an increase in the amount of the fibrous tissue, a progressive absorption and repair of pathologic products, a continued development of egg cells, and production and maturation of Graafian follicles, although not nearly to the same extent as in the normal ovary. The grafts become firmly adherent to the adjacent tissues by dense fibrous bands. The graft when placed in its new position is undoubtedly nourished by transudation of fluid from the lymph spaces of the adjacent tissue, hence the periphery of the ovary, or the egg-bearing part, always retains its vitality; but later, blood-vessels become developed and vascular union is established, the graft thus receiving blood from the arterial system. A female dog whose ovaries were removed from the abdominal cavity and were grafted, one on the external oblique muscle, and the other in the sheath of the rectus muscle, repeatedly showed all the symptoms of sexual heat, i. e., vulvovaginal congestion, and sanguineous discharge, and was warded by the dog, showing that the ovaries, even though in this abnormal position, continued to carry on their functions as organs of internal secretion and to regulate the sexual life of the animal. Nattrass believes that the autoplastic grafting of ovaries is a measure that ought to take its place and fulfil a definite purpose in conservative gynecologic surgery.

21. Also published in the *Australasian Medical Gazette*, December, 1910.

22. **Treatment of Acute Pneumonia.**—Reid claims that if free and persistent diaphoresis, which necessarily entails a primary dilatation of the skin capillaries, can be established in the first or congestive stage of a threatening pneumonia, the attack can be aborted. When the second or exudative stage has begun, and is progressing, the same method of treatment will by its action still prove effective in limiting the exudative process, and may, furthermore, have a vitally beneficial action in preventing the fatal accumulation of carbonic acid, and other morbid products engendered by the diminished lung function, *and increased metabolism by removing the same from the* system in or with the sweat. *Pari passu*, diaphoresis reduces body temperature, and checks tissue waste, etc. In effecting his object, Reid has trusted mainly to medicinal agents, with, in children, the additional aid of the hot mustard bath, and in adults the hot-pack or warm sponging. The drug which he *mostly employs is a physiologically pure salicylate* of soda, in four-hour doses, up to 15 or 20 grains, according to age, and. guided and controlled by the patient's temperature, taken and recorded every four hours. He has also used acetphenetidin in doses up to 10 grains every four hours with the same precautions. With both drugs he has been in the habit of *combining general and cardiac tonics and stimulants.* His results, in a limited number of cases, have been good, and he has specially noted the absence of cerebral symptoms where the diaphoresis was satisfactory. Several cases in which sweating was interrupted, or could not be properly established for obvious reasons, terminated fatally.

Australasian Medical Gazette, Sydney

December

23 Better Medical Organization. D. Hardie.
24 The Tendency Toward Nationalization of Medicine. J. H. L. Cumpston.
25 Bearing of Recent Advances in the Physiology of the Digestive Glands on Gastric Surgery. J. Flynn.
26 Ununited Intracapsular Fracture of the Neck of the Femur Successfully Operated On. M. Herz.
27 A Case of Retroperitoneal Abdominopelvic Lipoma. T Fiaschi.
28 Surgical Dyspepsias, Especially Appendix Dyspepsia. G. Craig.
29 *General Anesthesia. R. W. Hornabrook.

29. Also published in the *Australian Medical Journal*, December, 1910.

Annales de Gynécologie et d'Obstétrique, Paris

January, XXXVIII, No. 1, pp. 1-64

30 Torticollis from Congenital Myopathy. A. Couvelaire.

Archives des Maladies de l'App. Digestif, Paris

December, IV, No. 12, pp. 689-748

31 *The Antitryptic Index for Serodiagnosis of Gastro-Intestinal Cancer. J. C. Roux and R. Savignac.

31. **The Antitryptic Index for Serodiagnosis of Cancer.**—Roux and Savignac have simplified the antitrypsin test devised by Müller and Jochmann and modified by Fuld and Gross. They found the test positive in 89 per cent. of fifty-three cases of certain cancer and in 80 per cent. of the suspects. Except possibly in exophthalmic goiter, tuberculosis and early in pregnancy, the test was negative in the controls, and the conflicting findings possible in the conditions named would seldom, they think, lead to any confusion in diagnosis of cancer. They are convinced that negative findings may be regarded as almost certainly excluding malignant disease. Their technic requires only an hour to complete the test. They use a mixture of equal parts of milk and 2 per cent. solution of agar, filtered while still hot. The whole is then heated to 100 C. in the water bath, then cooled to 60 C. and poured out in a thin layer on Petri dishes. One drop of blood-serum is mixed with 1, 2, 3, 4 *or more drops of a 1 per cent.* solution of trypsin, in turn, and 1 drop of each of the dilutions is placed on one of the Petri dishes, and near it is deposited a control drop of the pure trypsin solution. The dishes are then incubated for an hour at 50 C. The drop of trypsin digests out the milk casein in the agar mixture and

the antitryptic index is the number of drops of the solution mixed with the serum which are required to overcome the antitryptic power of the serum. Four drops is the highest normal range, and any index over this is strong evidence of the existence of malignant disease. The details of fifty-three cases are given in full and the findings tabulated—the whole forming, they think, an important brief in favor of the differential importance of this simple test.

Archives des Maladies du Cœur, Etc., Paris

January, IV, No. 1, pp. 1-62

32 Prognosis and Treatment of Arrhythmia. H. Vaquez.
33 *"Blood Diseases." (Les syndromes hématiques associés.) M. Labbé and Laignel-Lavastine.

33. **Blood Diseases.**—Labbé and Lavastine report two cases of chronic purpura and hemophilia in a girl of 16 and a woman of 34, the latter presenting also the signs of pernicious anemia. They comment on the fact that the so-called blood diseases are rather syndromes due to histochemical changes in the blood, resulting from a variety of causes. The clinical evolution of the cases and the action of the treatment instituted show that the three syndromes were not interdependent but merely casually associated. Under serotherapy the tendency to hemophilia was arrested in both patients; the first patient recovered, but the pernicious anemia in the other continued its fatal course unmodified.

Bulletin de l'Académie de Médecine, Paris

January 10, LXXV, No. 2, pp. 29-40

34 Advantages of Pyelotomy for Removal of Kidney Calculi. M. Le Dentu.

January 17, No. 3, pp. 41-58

35 Hectine in Syphilis. H. Hallopeau.
36 *Case of Rapid Actinomycosis. E. Schwartz.

36. **Actinomycosis.**—Schwartz' patient was a farmer who felt a sting on his cheek while sitting in the grass; a hard and painful tumor developed at the spot. It was excised the sixth week and proved to be an actinomycotic process. The true nature of the process had never occurred to any one or potassium iodid would have been given and operation not attempted, as it is liable to induce metastatic embolism. Letulle has recently encountered a case of circumscribed actinomycotic pleurisy in which the focus was excised and a few weeks later the patient succumbed to a metastatic abscess in the brain.

Bulletins de la Société de Pédiatrie, Paris

December, XII, No. 9, pp. 501-567

37 *Developmental Defects Connected with Suprarenal Lesions. (Dystrophies en relation avec des lésions de capsules surrénales: Hirsutisme et progeria.) E. Apert.
38 Hydrocephalus Following Meningitis. R. Voisin.
39 "Scapulum Valgum" in Rachitis. (Elévation congénitale de l'omoplate chez un enfant atteint de [illegible] multiples.) Nageotte-Wilbouch[illegible]
40 Slight Hemiplegia. Nageotte-W[illegible]
41 *Insufficiently-Fed Infants. (Etude clinique de l'hypoalimentation chez les *nourrissons*.) P. Merklen.

37. **Developmental Defects Connected with Suprarenal Lesions.**—Apert reviews the necropsy findings in thirty-five cases of disease of the suprarenal cortex on record and describes the symptoms that had been observed in the individuals during life. They form a special syndrome different, he declares, from that of Addison's disease, but almost equally distinct. In fact there are two syndromes, he says, one resulting from excessive functioning and the other from defective functioning of the suprarenal cortex. The former is characterized by excessive development of the hair and of adipose tissue and of the body in general, with disturbances in the genital functions, while defective development in these directions is the result of imperfect development of the suprarenal cortex. He applies the term "hirsutism" and "progeria" to these different types and states that the former may reveal the presence of a tumor, possibly a cancer, in the suprarenal cortex, the removal of which is urgently indicated, while in the progeria type—senile dwarfism—organotherapy is indicated, the suprarenal capsule itself being administered and not an extract of the medulla.

41. **Insufficiently Fed Infants.**—Merklen comments on the crying of the infant when it does not get enough food at a meal, its restlessness and its gradual exhaustion and dropping to sleep, the whole picture being very different from the fatigue and slumber of the well-fed healthy child. Even during its sleep the child is still restless, and it whimpers at times, while the slightest noise rouses it, when it appeals anew for the nourishment it needs without having the strength to make its appeals very insistent. There is also, he states, a marked tendency to a false constipation, not enough food being obtained to make normal stools; the walls of the intestine, suffering from lack of nourishment, grow too weak to move the feces along. Sometimes this supposed constipation is the first sign to call attention to the fact that the child is not thriving. In other cases, the stools are regular but they have the aspect of those with ordinary enteritis; even diarrhea may be observed. The stools may be fluid even when the bowels can be moved only with a suppository. These diarrheic stools alternated with periods of constipation in one of the four cases reported in detail. The possibility of insufficient nourishment should never be forgotten as, if gastro-intestinal infection is assumed and the food still further reduced, serious trouble may follow. In two of his cases the infants vomited frequently; as a rule, the vomiting in these cases follows not long after the meal. The true cause for the vomiting can be detected by noting the amount of food the child is obtaining and the improvement that follows an ampler ration. One of the four children vomited in the morning before it had had any food. Another sign of defective nourishment is the small amount of urine although, like the constipation, it is a false oliguria; it was pronounced in three of the four cases reported. The way the child nurses is also characteristic, sucking slowly and stopping often; or it sucks and no swallowing movements can be detected. Some infants give up when they realize the futility of their efforts, and lie with open eyes or in a somnolent condition, while others fret incessantly. The flabbiness of the muscles is another sign, while the wrinkled skin and pallor also attract attention; but the infant's eyes are bright and its glance is vivacious until the defective nourishment becomes actual inanition. If recognized in time and the child is properly fed, it recuperates, he says, with astonishing rapidity.

Lyon Médical, Lyons

January 1, CXVI, No. 1, pp. 1-56

42 Postoperative Inflammatory Tumors in the Omentum. (Epiploites post-opératives.) X. Delore.

January 8, No. 2, pp. 57-96

43 Improved Technic for Induced Pneumothorax. (De quelques moyens pratiques destinés à prévenir les accidents immédiats du pneumothorax artificiel.) B. Lyonnet and M. Piéry.

January 15, No. 3, pp. 97-132

44 Pathogenesis of Progressive Scleroderma. C. Roubier and A. Lacassagne.

January 22, No. 4, pp. 133-168

45 Primary Melanosarcoma of the Rectum. A. Challer.

Presse Médicale, Paris

January 18, XIX, No. 5, pp. 41-48

46 *Differential Importance of Albumin in Sputum. M. Gantz and R. Hertz.

January 21, No. 6, pp. 49-56

47 Meningeal Form of Actinobacillosis. P. Ravaut and Pinoy.
48 Congenital Myxedema from Defect in Thyroid Development. G. Roussy and J. Clunet.
49 Ptosis of Liver. (L'hépatoptose avec interposition de viscères entre le foie et la coupole diaphragmatique.) D. Chilaiditi.
50 Grafted Artery. (Cas de greffe artérielle.) A. Pirovano.

January 25, No. 7, pp. 57-64

51 Serodiagnosis of Echinococcus Disease. J. P. Urioste and A. Scaltritti.

46. **Diagnostic Importance of Albumin in Sputum.**—Gantz and Hertz applied tests to determine the presence of albumin in the sputum of 125 patients, each examined two or three times. The group included only sixty with known tuberculosis. The simplicity of the albumin test and its reliability in revealing an inflammatory process in the lung or pulmonary edema commend it for general adoption, they assert, as a valuable bedside test. The albumin reaction is not obtained in bronchial catarrh and it is dubious in fibrous pulmonary tuberculosis, but it is positive in advanced and incipient tuberculous pulmonary lesions, in pneumonia and embolism and in even slight pulmonary edema. The test was made by adding 2 c.c. of acetic acid and 10 c.c. of dis-

tilled water to 10 c.c. of sputum. The mixture was then stirred briskly with a glass rod, filtered and the filtrate boiled, when the albumin was thrown down. It was sometimes necessary to add a little sodium hydroxid when the fluid was too acid.

Revue de Gynécologie, Paris

January, XVI, No. 1, pp. 1-88

52 Artificial Vagina Made from Transplanted Intestine: Seventh Case on Record. J. Abadie.
53 Rupture of Large Blood Vessels in Abdominal Contusions. Ducuing and Florence.

Berliner klinische Wochenschrift

January 23, XLVIII, No. 5, pp. 153-196

54 Cyst Formation in Kidney, Liver and Spleen. (Cystenbildungen der Niere, Leber, Milz und ihre Entstehung.) H. Coenen.
55 Improved Radiologic Examination of Gastro-Intestinal Tract. G. Holzknecht.
56 *Salvarsan. (Zur Wirkungs- und Anwendungsweise von Salvarsan.) F. Lesser.
57 Pfannenstill's "Two-Route" Treatment of Lupus of the Nose. [illegible] -vi nasi mittelst Iodnatrium [illegible] der Methode von Dr. S. A. [illegible]
58 Im[illegible] *Spirochæta pallida.* E. Klausner.
59 *Apical Percussion Findings. (Zur diagnostischen Bewertung der Befunde über den Lungenspitzen.) E. Laser.
60 *Stammering. (Zur Psychologie und Therapie des Stotterns.) O. Aronsohn.

56. **Salvarsan and the Wassermann Reaction.**—Lesser emphasizes that medication in syphilis should be guided by the reaction to the Wassermann test, as he believes that only when the test is permanently negative can the disease be regarded as inactive or cured. The aim should be, he thinks, to give the salvarsan in doses that will tone up the organs and enable them to manufacture the necessary antibodies, giving up the idea of trying to kill all the spirochetes at one stroke. This tonic action on tissues and organs is realized better with small than with large doses; the latter have a toxic action and impair functioning rather than stimulate it in the various organs. His experience has been that the best technic on these principles is to inject 0.1 gm. of salvarsan, in suspension in oil of sweet almonds, once a week, according to the technic for injection of the insoluble mercurial salts. He thus injects 0.6 gm. of salvarsan in all in about 6 c.c. of oil. A week after the sixth injection the Wassermann test is applied and if the findings are still positive he continues the injections. These small doses are convenient for outpatients, and he advocates having the salvarsan put on the market in 0.1 gm. doses already mixed with the oil.

59. **Puzzling Physiologic Apical Findings.**—Laser has encountered a number of cases in which patients had been sent to a sanatorium for lung diseases on account of supposed pathologic percussion findings at the apices, but time revealed that the apices were physiologic. He comments on the trail of broken engagements, distress and poverty liable to follow a mistaken assumption of tuberculosis, and describes the features of the percussion findings at the apex which differentiate the physiologic from those with tuberculous processes. The patients in the cases he has encountered were mostly girls, inclined to be pale and thin, complaining of lassitude and cough, and some with mucous expectoration. The area of resonance over the right apex was abnormally small; frequently the right apex dragged behind, and the breathing sound was more distinct here than in the left apex; especially over the right supraspinous fossa the expiration sounded peculiarly loud and long, but there were never any râles, bacilli in the sputum or fever. These findings persist unmodified for years and if other persons not suspected of tuberculosis are examined systematically, as Laser has done on a large scale, similar findings will frequently be discovered in the healthy. He is inclined to explain them as the result merely of an unusually wide lumen of the right bronchial tube—a physiologic occurrence. In some people both apices present the same findings, and they are liable to occur in slender men as well as in women. Blümel has recently called attention to similar findings in persons unable to breathe freely through the nose, and in looking over his records Laser has also found it noted that some of the patients in question were mouthbreathers

60. **Stammering.**—Aronsohn explains stammering as a psychologic infirmity. These individuals are generally morbidly afraid of laying themselves open to ridicule and consequently they strive to suppress emotional stress on what they are saying. Treatment should be along psychologic lines, he affirms. It is irrational to try to train the muscles to coordination when the trouble is in the mind and not in the muscles. The main point is to teach the individual to think *simply and to express himself simply and genuinely, paying no* attention to the way he speaks. Reading exercises are useful adjuvants except when the patient does not stutter when reading aloud.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

December 30, XIII, No. 23, pp. 881-928

61 *Hernia in the Linea Alba. (Hernien der Linea alba und ihre Bedeutung für die innere Medizin.) L. Müller. Commenced in No. 22.

61. **Epigastric Hernia.**—Müller summarizes in turn the principal points of sixty-eight articles that have been published bearing on hernia in the linea alba and its importance for internal medicine. The insignificance of the objective findings in comparison with the serious stomach and intestinal disturbances is a prominent feature. In one of Sebba's cases, a woman of 46 had suffered for eighteen years from gastrointestinal disturbances with repeated green vomiting; finally symptoms of ileus developed. This led to the discovery of the epigastric hernia hidden behind the unusually thick layer of adipose tissue in the abdominal wall. Richter warns that the hernia may easily escape detection unless the patient is examined standing with the trunk bent forward. In the dorsal decubitus the hernia becomes spontaneously reduced and escapes discovery. A history of work requiring much bending forward and backward, carrying heavy loads, and other factors tending to weaken the upper abdominal wall, may give the clue to the source of the trouble, as these factors are seldom encountered in the history of gastric ulcer. The increased intensity of the symptoms after physical exercise also speaks more for hernia than for ulcer; the discomfort with the latter is generally associated with food. Temporary relief from discomfort is often obtained with ulcer when the patient lies on the right side, but with hernia, relief is obtained by reclining on the back. The tenderness also is more localized and constantly at the same point. Gastric ulcer is more common in anemic girls, and hernia in robust, hard-working men. Stomach colic and localized pain in the linea alba may sometimes result from purely nervous causes, from intercostal neuritis after influenza, from gall-bladder disease, pancreatitis or appendicitis, enteroptosis, and retroflexion of the uterus. In two cases reported by Mezger the disturbances were relieved by operative treatment of the epigastric hernia but recurred later and an accompanying or causal gastric ulcer was discovered. Ury and Strauss have reported eight similar cases and suggest that the traction from the hernia led to development of the ulcer. Kelling thinks that irritation of the nerves from the presence of the hernia may lead to secondary ulceration in the stomach by reflex action. Capelle has reported that the thirty-five patients with epigastric hernia who have been given operative treatment at the Breslau surgical clinic, were all apparently cured but reexamination a year later showed that the cure had been permanent in only *nine*; the others had more or less disturbances and the hernia had recurred in six. In seven cases non-absorbable sutures and cicatricial adhesions were probably responsible for the trouble; seven other patients complained of gastric disturbances and an ulcer was probably responsible in two. A truss is of little use for epigastric hernia as it will not stay in place at this point.

Deutsche medizinische Wochenschrift, Berlin

January 26, XXXVII, No. 4, pp. 145-192

62 *Epidemic Poliomyelitis. (Heine-Medinsche Krankheit.) A. Baginsky.
63 Esch's Cholera Hemoglobin Culture Medium. A. Friedrichs.
64 *Syphilis of the Stomach. (Syphilis des Magens.) M. Siegheim.
65 *Febrile Liver Syphilis. (Klinischer Befund und pathologisch-anatomischer Befund bei zwei Fällen von tertiärer fieberhafter Leberlues.) L. Kirchheim.

66 Improved Technic for Epiphanin Serodiagnosis of Syphilis. W. Weichardt.
67 *Myeloid Chloroma. E. Paulicek and L. Wutscher.
68 Primary Typhlitis. K. F. Herhold.
69 Physiologic Action of Thallium. A. Buschke.
70 *Traumatic Sarcoma. E. Heinrich.
71 *Sodium Thiosulphate for Removal of Iodin Stains. (Natrium hyposulfurosum als Jodabwaschmittel.) F. Snoy.
72 Children's Sanatorium. (Die Kinderheilstätten vom roten Kreuz in Hohenlychen.) A. Bruck.
73 Biogenesis and Ontogenesis. (Haeckels biogenetisches Grundgesetz und das ontogenetische Kausalgesetz von Oskar Hertwig.) F. Keibel.

62. **Epidemic Poliomyelitis.**—Baginsky remarks that the term "spinal paralysis" will have to be dropped as the disease is so variable and is liable to include meningeal, bulbar and spinal symptoms. He urges sending out a question blank to the physicians in the district to get a general oversight of the conditions prevailing in the recent Berlin epidemic. It was noted at Graz that more cases developed in the surrounding country than in the town itself.

64. **Syphilis of the Stomach.**—Siegheim summarizes what has been published on the subject of gastric ulcer, gastric tumor and pyloric stenosis developing as a syphilitic lesion and a fourth form—hyperplastic cellular infiltration leading to fibrous induration. It is only three years since Brunner was able to compile from the literature thirteen cases in which an operation had been performed on the stomach on a mistaken diagnosis, the lesion in question proving to be of syphilitic origin. Surgical treatment of tertiary syphilitic lesions in the gastro-intestinal tract, Siegheim exclaims, in future should be referred to only as a historical reminiscence. The Wassermann reaction may clear up the diagnosis, as in a case he reports from his own experience: A man of 30 acquired syphilis and was given repeated thorough courses of mercurial and iodid treatment during three or four years. Sixteen years later occasional attacks of vomiting and oppression in the gastric region after eating were accompanied by loss of weight and other symptoms, dilatation of the stomach, lack of free hydrochloric acid and presence of lactic acid with radiographic findings typical of stenosis of the pylorus. All this, in connection with the fact that the patient belonged to a "carcinoma family," pointed to gastric cancer in an advanced stage. As a last glimmer of hope the Wassermann test was applied; the findings were strongly positive, and under energetic mercurial treatment all the symptoms subsided and the patient rapidly recovered apparently complete health and has no further gastric disturbances. The peculiar severity of the syphilis in this case is evident in the serious recurrence after sixteen years in the form of a gumma in the pyloric region leading to stenosis and consequent dilatation of the stomach. Einhorn has reported a similar case except that in his patient there was never any lack of free hydrochloric acid. In Siegheim's case the motor functioning of the stomach became normal but no free hydrochloric acid could be found at the last examination although the gastric functioning was apparently normal. He adds that his case teaches the importance of direct treatment of the syphilis so long as the Wassermann reaction is markedly positive.

65. **Febrile Syphilitic Lesions in the Liver.**—In Kirchheim's two cases the tertiary lesions in the liver had involved the adjoining diaphragm with perforation in one case and propagation to the right lower lobe, empyema and chronic inflammation of this part of the lung. In the other case the participation of the diaphragm in the process entailed a syndrome simulating acute pneumonia, although there had been no initial chill and the sputum was not characteristic. In the second week pleurisy with effusion developed requiring repeated tapping. The fever persisted after subsidence of the pneumonia but repeated examinations failed to reveal the clue until in the ninth week the liver was found to be enlarging and the progressive cachexia pointed to a subphrenic abscess and staphylococci were cultivated from the pus. Hemorrhagic nephritis followed with death the fifth month after the development of the pneumonia-like syndrome. The microscope disclosed typical gumma. In both cases secondary infection of the gumma in the liver was responsible for the protracted course and final fatal termination. Specific treatment had not been given in either case as there had been nothing to suggest syphilis until, a few days before death, one patient acknowledged old syphilitic infection; specific treatment then came too late. In a third case three small gummas in the liver had involved the diaphragm but had caused no further trouble, the patient succumbing later to a brief perforation peritonitis. Klemperer has asserted that ulcerating gumma alone is sufficient to cause fever; in his cases all symptoms disappeared under specific treatment.

67. **Myeloid Chloroma.**—Paulicek and Wutscher give the particulars of a case in which a chronic myeloid leukemia in a young man blended into chloromatosis. The Roentgen-ray treatment given the patient may have been responsible for the development of the latter.

70. **Traumatic Sarcoma.**—A man aged 41 was hit in the calf by an iron rod. The open wound healed in two weeks but a swelling persisted and the point became painful so that by the end of five months he had to give up work and take a course of rest and compresses for the assumed varicose disturbances. No improvement followed and the lesion was excised. The microscope showed a round-celled sarcoma, and the thigh was amputated at once but metastasis in the spine developed in a few months. The insurance company accepted without question the direct connection between the industrial accident and the following malignant disease.

71. **To Remove Iodin Stains.**—Snoy calls attention anew to the power possessed by sodium thiosulphate to cleanse the skin and linen of the stain left by tincture of iodin. He applies a warm concentrated solution of the sodium hyposulphite (as it is more generally called), to the iodin stain. A chemical change rapidly takes place, the two chemicals blending to form sodium iodid and tetrathionate which are both very soluble and readily wash off the skin and tissues. He has never observed any injurious by-effects from the procedure on either skin or linen.

Medizinische Klinik, Berlin

January 22, VII, No. 4, pp. 127-164 and Supplement

74 *Scarlet Fever and Its Complications. (Scharlachfieber und seine Komplikationen.) H. Lüdke.
75 *Symptomatology of Cerebral Embolism. (Gehirnembolie.) B. Hippel.
76 Serotherapy of Urticaria. P. Linser.
77 Acute Syphilitic Yellow Atrophy of the Liver. W. Braunschweig.
78 Respiratory Exercises in Treatment of Bronchial Asthma. L. Hofbauer.
79 Peroneus Paralysis After Administration of Salvarsan. (Zur neurotoxischen Wirkung des Salvarsans.) G. Walterhöfer.
80 New Technic for Determination of Tubercle Bacilli. (Neuere Methoden zum Nachweis von Tuberkelbazillen in Sputum und in pathologischen Sekreten und Geweben.) M. Kawai.
81 Salvarsan in Syphilis. E. Tomasczewski.

74. **Scarlet Fever Complications.**—Lüdke says in the course of his study of the subject that the temperature curve is a valuable guide to the prognosis; even the slightest rise after the disease has begun to decline indicates some complication, and reduction in the amount of urine is the most certain sign of severe nephritis. He states that one attack of scarlet fever generally confers immunity, and that the character of the prevailing epidemic determines whether the disease is to be mild or severe. Special attention must be paid to the middle ear with scarlatinal sore throat; tenderness in the mastoid region and any rise in temperature should be watched for. Even with mild scarlet fever the child should stay in bed three weeks, he declares, and not be allowed to get up until repeated examination of the twenty-four hours' urine shows the absence of albumin. The disease may occur merely as an ordinary sore throat and thus escape detection.

75. **Symptomatology of Embolism in Cerebral Vessels.**—Hippel has recently encountered two cases without the usual triad of symptoms—apoplectic seizure, loss of consciousness and hemiplegia. The first patient was a young man and hemiplegia developed insidiously, the left side becoming paralyzed for a few days and then the hemiplegia subsided and the patient felt comparatively well for two days, but then symptoms typical of meningitis developed and he died in coma. Necropsy revealed embolic obstruction of the right middle cerebral artery. Wernicke has reported a similar case in a woman of 73, death occurring from asphyxia. Hippel's

patient, after subsidence of the hemiplegia, showed no symptoms of embolism, merely the syndrome typical of meningitis. Death occurred two weeks after the first sign of trouble. Walker has reported three cases of cerebral embolism with symptoms suggesting merely acute meningitis. In Hippel's second case a boy of 8 convalescing from diphtheria suddenly developed symptoms of meningitis; there was no tendency to hemiplegia and no apoplectic seizure, but necropsy disclosed extensive embolism of the right middle cerebral and internal carotid arteries involving the finest ramifications.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 9, pp. 455-549

82 Influence of Heat on Infant Organism. H. Kleinschmidt.
83 Buttermilk in Infant Feeding. (Buttermilchernährung des Säuglings.) M. Menschikoff.
84 Respiratory Metabolism in New-Born Infants. (Zur Physiologie des neugeborenen Kindes. II.) W. Birk and F. Edelstein.
85 Duration, Extent and Course of Physiologic Decline in Weight of New-Born Infants. (Zur Physiologie des Neugeborenen.) W. Ples.
86 Lime Metabolism in Rachitis. (Kalkstoffwechsel bei Rachitis.) W. Birk and A. Orgler.

Münchener medizinische Wochenschrift

January 24, LVIII, No. 4, pp. 177-232

87 *Hemorrhages During Early Pregnancy and Their Relation to Abortion. L. Seitz.
88 Pharmacologic Research on Mixed Anesthesia. (Mischnarkose.) H. Fühner.
89 *Metabolic Research During Exclusive Milk Diet. (Stoffwech- [illegible] arellschen Milchkur.) C. Hegler.
90 [illegible] Action of Epinephrin. (Zur [illegible] elchämostyptischen Wirkung des Nebennierenextraktes.) R. von den Velden.
91 Dosage of Roentgen Rays. (Methode zur Messung der Röntgenstrahlung in der Therapie.) H. Meyer.
92 *Salvarsan in Syphilis. B. Spiethoff.
93 Cervical Cesarean Section. (Zur Methode und Indikationserweiterung des zervikalen Kaiserschnitts.) G. A. Walcher.
94 *Improved Technic for van Deen Blood Test. Wackers.
95 Regional Variability in Susceptibility to Iodin. (Empfindlichkeit gegen Iod.) P. Fleischmann.
96 Radiotherapy of Large Epithelial Defects. C. Widmer.
97 Historical Contribution to Treatment of Syphilis with Arsenic. G. Kirchgaessner.

87. **Hemorrhage During the First Months of Pregnancy and Its Relation to Abortion Later.**—Seitz states that hemorrhage in the first four months of pregnancy occurred in 87 of the 25,000 lying-in cases at the Munich maternity, the patients regarding it as recurring menstruation, and in an additional 273 there was atypical hemorrhage, but abortion did not follow at once in any instance. The fetus however had in some cases suffered so that only 145 of the children were carried to normal term and left the clinic in good health. Treatment of the hemorrhage has not much prospect of success in preventing serious injuries to the fetus except when the hemorrhage is due to trauma or endometritis. With trauma, the hemorrhage is the result of separation of some portion of the placenta, and treatment should aim to prevent any contractions of the uterus which might separate more of it. Strict rest in bed should be enforced. Only with bed-rest for from six to eight weeks is it possible to tide the patient past the critical period when she is subject to habitual abortions at the period in question or has been having long-continued hemorrhages. Opium should be given as indicated to prevent the uterus from contracting. Long-continued hemorrhage during the first two months seems to be inevitably fatal for the fetus, but during the third and fourth month it displays remarkable resistance. In conclusion he states that in two cases the ovum was expelled without decidua after hemorrhage during the second month, but to his surprise the pregnancy continued and a healthy child was born at term; there had evidently been a twin pregnancy and after expulsion of one fetus the other continued its growth.

89. **Restriction to Milk in Treatment of Obesity.**—Hegler records the metabolic findings in a number of persons taking the Karell cure, namely restriction to less than a quart of milk a day, the patient staying in bed, the bowels being kept loose with a laxative mineral water, with massage given daily—this treatment being kept up for from five to ten days. In one case the patient weighing 451 pounds, lost 101 pounds in the course of eighty days during which the Karell course had been repeatedly given and the patient never allowed over 700 calories a day. The general health was much improved and the patients felt stronger in every case. Practical experience seems to confirm the advantages of the Karell course, he states, although theoretically much can be said against such a starvation method of treatment.

92. **Salvarsan.**—Spiethoff has encountered a second case of collapse several hours after injection of salvarsan. His first case was mentioned in these columns Oct. 8, 1910, page 1331. In the second case the collapse occurred during the daytime, five hours after an intravenous injection of 0.45 gm. in an alkaline solution. The danger was promptly recognized and stimulants applied, soon restoring the patient, a robust young woman in the second stage of syphilis. In the other case the collapse occurred in the night after subcutaneous injection, and nothing was known of it in time. Since then Spiethoff has made the injections exclusively in the morning. The heart was not quite normal in either of these cases, but the collapse, he believes, was unmistakably the result of arsenic intoxication. His experience with salvarsan in 200 cases of syphilis confirms, he thinks, the advantages of the Iversen technic, first intravenous and then after four days a subcutaneous injection, with another intravenous injection four weeks later. Great attention must be paid to the heart both before and after the treatment and tobacco and alcohol must be avoided for a time. One young man attended a party eight days after injection of 0.6 gm., and he drank a great deal and smoked cigarettes, neither of which had ever previously affected him. But the next day acute heart weakness developed with which he had to contend for weeks. The action of the three poisonous substances together, the nicotin, alcohol and salvarsan, proved too much for his heart. Myocarditis and heart defects contra-indicate the use of salvarsan, Spiethoff insists, as also affections of the central nervous system localized in vital centers. Any local reaction to the salvarsan might prove dangerous under these conditions. In one of his cases a man had well compensated mild aortic insufficiency but no other pathologic findings could be detected in the heart. A few days after subcutaneous injection of 0.3 gm. salvarsan, signs of heart weakness became apparent, proving fatal on the eleventh day. Necropsy revealed unsuspected degeneration of the myocardium which had evidently become aggravated under the influence of the medication.

94. **Improved Technic for Test for Occult Blood.**—Wackers applies the test to the fluid to be examined diffused over the walls of a moist filtering paper funnel. It is astonishing, he says, how this magnifies the findings and does away with the uncertainty in case of highly colored urine. The advantages of the simple guaiac-turpentine test thus "enriched" are evident in case of convalescence from hemorrhagic nephritis, for example, permitting detection of even the slightest trace of blood in the urine. The test can be made with as little as 10 c.c. of urine.

Wiener klinische Wochenschrift, Vienna

January 26, XXIV, No. 4, pp. 115-152

98 *Pancreatic Extract in Epinephrin Glycosuria. (Hemmung der Adrenalinglykosurie durch Pankreaspräparate.) O. v. Fürth and C. Schwarz.
99 Origin of Melanotic Skin Pigments. K. Kreibich.
100 *Serotherapy of Cerebrospinal Meningitis. (Genickstarre und Heilserum.) E. Schepelmann.
101 Nail Extension for Fractures. (Nagelextension aus dringlicher Indikation.) H. Ehrlich.

98. **Research on Epinephrin and Other Glycosuria.**—Fürth and Schwarz report experimental research which has shown that injection of pancreas extract, turpentine or other irritating substance into the peritoneum injures the kidneys to such a degree that their functioning is seriously impaired and they are unable to eliminate salt and sugar as under other conditions. This simple explanation of the checking of the glycosuria which follows injection of epinephrin, by the injury of the kidneys after injection of almost any irritating substance into the peritoneum, destroys, they say, the foundations for Zuelzer's assumption of some chemical hormone inhibiting the epinephrin glycosuria when pancreas extract is injected into the peritoneum. Their findings also explain the familiar fact that in diabetes any injury of the kidneys is liable to reduce the output of sugar in the urine.

100. **Serotherapy in Epidemic Meningitis.**—Schepelmann reports an unusually severe case of epidemic cerebrospinal meningitis in a previously healthy woman of 26. No benefit seemed to be derived from the usual measures, including twice repeated lumbar puncture, but the thirteenth day of the disease a prompt turn for the better followed lumbar injection of antimeningococcus serum. The temperature dropped with sweating and recovery was soon complete. The only by-effects were recurring harmless urticaria and, the first day, there was some weakness of the heart requiring stimulants. He reviews the literature on the subject of serotherapy of meningitis, drawing the conclusion that all other measures have merely symptomatic action—the serotherapy alone is a causal remedy. The mortality of the disease has dropped since its introduction in Germany to two-thirds or a quarter of what it used to be, and the course of the disease is much milder and shorter. The earlier the injection is made, the better the results, and a single large dose is better than repeated small doses. Next to diphtheria, he declares, ranks the serotherapy of meningitis. No serious by-effects from its use have been reported.

Zeitschrift für Kinderheilkunde, Berlin

November, I, No. 2, pp. 139-206

102 *Pathogenesis of Digestive Disturbances in Infants. (Verdauungsstörungen im Säuglingsalter.) H. Bahrdt, F. Edelstein, L. Langstein and E. Welde.
103 Bacterial Content of Infant Feces. S. Kramsztyk.
104 Iron Content of Human Milk and Its Relation to Anemia in Infants. (Eisengehalt der Frauenmilch.) H. Bahrdt and F. Edelstein.
105 Behavior of Camphor in Infant Organism (Zur Kenntnis der Ausscheidung von Glucuronsäure im Säuglingsalter.) F. W. Schlutz.

December, No. 3, pp. 207-314

106 Sugar Content in Infants' Blood. (Blutzuckeruntersuchungen bei Säuglingen.) S. Cobliner.
107 Action of Various Sugars in Dyspeptic Infants. (Wirkung der verschiedenen Zuckerarten bei ernährungsgestörten [illegible] Leopold.
108 *[illegible] of Glycuronic Acid in Infants' Urine. ([illegible] ler neueren Glucuronsäure-Reaktion für [illegible]es Harnes der Säuglinge.) E. Mayer-[illegible]

January, No. 4, pp. 315-422

109 Experimental Psychology in Children. (Assoziationsversuche an Kindern.) T. Goett. Commenced in No. 3.
110 Influence of Phosphorus-Cod Liver Oil on Metabolism of a Rachitic Infant. C. Towles.
111 Elimination of Gastric Ferments in Infants' Urine. (Ausscheidung der Magenfermente im Säuglingsharn.) H. Pechstein.
112 *So-Called Alimentary Fever. P Heim and K. John.

102. **Pathogenesis of Digestive Disturbances in Infants.**—Bahrdt and his coworkers have devised a method for quantitative determination of the volatile fat acids. The apparatus combines a vacuum and steam distillation, and they record the findings with human and cows' milk, infants' stools and dog stomach content and stools. Their research was undertaken to determine the actual source and nature of the hypothetical toxins developing in the course of digestion which are assumed to be responsible for the so-called alimentary intoxication.

108. **Diagnostic Importance of Glycuronic Acid in Infants' Urine.**—Goldschmiedt described last year a simple, rapid and sensitive test for glycuronic acid in the urine, and Mayerhofer here reports the findings in ten infants. They confirm the importance of the test for clinical purposes as the reaction was found almost invariably negative in healthy infants but it became promptly positive with any disturbance in the child's health, especially any febrile diarrheic trouble. In advanced stages, the findings may become negative again as ability to eliminate glycuronic acid becomes exhausted. The test is made by adding to 1 drop of urine 2 drops of a 10 or 15 per cent. alcoholic solution of alpha naphthol. The mixture is then poured cautiously on top of 3 or 4 c.c. of concentrated sulphuric acid. Colored rings form at the zone of contact between the two liquids, and on the side toward the sulphuric acid an intensely green ring forms in case of the presence of glycuronic acid in the urine. To have the test absolutely certain, the nitrites must first be excluded, which is easily done with the diphenylamin reaction. A positive alpha naphthol reaction in combination with a negative diphenylamin reaction reveals the presence of glycuronic acid in the urine, and this finding parallels the digestive disturbances and disappears as conditions return to normal. The findings with this test explain the danger of giving camphor to infants suffering from inanition. Hochsinger recently reported serious symptoms of intoxication in an infant with cholera infantum and inanition who had been given small doses of camphor.

112. **Alimentary Fever.**—Heim and John suggest that what has been called alimentary fever is in reality more a stasis fever—a stagnation of heat, and they present arguments and evidence to sustain this view.

Zentralblatt für Chirurgie, Leipsic

January 28, XXXVIII, No. 4, pp. 105-152

113 Operative Treatment of Cleft Palate. A. Codivilla.
114 *Improved Technic for Operations on the Thorax. (Handgriffe am Zwerchfell und Herzen für Thoraxoperationen.) H. Teske.

114. **Improved Technic for Operations Within the Thorax.**—Teske found on laboratory animals that the dangers from opening up the thoracic cavity could be obviated by mechanical means to prevent the diaphragm from making excessive excursions. Traction on the manubrium before opening the chest has this effect, and he suggests traction on the costal arches on both sides as liable to prove effectual in man. After the chest is opened he pushes down the bulging diaphragm with the tip of his little finger, or a spatula, repeating this rhythmically, and he found that the respiration became slower and regular at once when this was done. In applying the compression to the diaphragm, he manages so as to give a little support to the heart at the same time. By this means it is possible to ward off the momentary arrest of the respiration as the thorax is opened up, which he regards as the chief factor in pneumothorax shock.

Zentralblatt für Gynäkologie, Leipsic

January 28, XXXV, No. 4, pp. 137-176

115 Lymph Follicles in Mucosa of Cervix Uteri (Gehäuftes Vorkommen echter Lymphfollikel in der Schleimhaut der Portio vaginalis uteri.) H. Hauser.
116 Cancer in Stump of Cervix Uteri. R. v. Fellenberg.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 19, XXXII, No. 9, pp. 91-98

117 Incubation Period in Malaria. M. Gioseffi.

January 22, No. 10, pp. 99-114

118 Case of Tuberculous Process in Body of Uterus. P. Romeo.

Riforma Medica, Naples

January 1, XXVII, No. 1, pp. 1-56

119 Advantages of Proper Proportion of Animal Food: Tests on Vegetarians. (Influenza delle proteine animali nel vegetariani.) P. Albertoni.
120 *Cancer Involving Stomach and Spleen. (Lezione clinica.) G. Baccelli.
121 *Acute Sepsis in Children. A. Baginsky.
122 Variability of Diseases. G. Banti.
123 Symptoms with Disease of Parietal Lobe of the Brain. (Sindrome parietale.) L. Bianchi.
124 *Omentopexy for Ascites with Valvular Defect. C. Bozzolo.
125 *Prophylaxis of Malaria. A. Celli.
126 Treatment of Surgical Tuberculosis, Especially of the Soft Parts. A. d'Antona.
127 Salvarsan in Syphilis. T. De Amicis.
128 Myelopathic Albumosuria. (Sul morbo di Kahler.) E. De Renzi.
129 Induced Pneumothorax. (Il pneumotorace artificiale guarisce la tisi? Ed in qual modo?) C. Forlanini.
130 Pharmacologic Study of Mercurial Compounds. (Albuminati mercurosi e albuminati mercurici in rapporto all'azione farmacologica dei diversi composti mercuriali.) G. Gaglio.
131 *Liver Percussion Findings on Left Side. (Sull'ottusita epatica vertebrale e paravertebrale sinistra.) P. Grocco.
132 Sydenham's Chorea a Curable Encephalopathy. V. Hutinel.
133 The Sugar in the Blood. (Lo zucchero del sanguē.) R. Lépine.
134 *Present Status of Specific Treatment of Tuberculosis. (I nuovi orientamenti della pathologia e della clinica della tubercolosi in rapporto alla terapia specifica.) E. Maragliano.
135 *Chronic Hypothyroidism. E. Marchiafava.
136 *Serotherapy in Syphilis. G. Marinesco.
137 Salvarsan. A. Murri.
138 *Acetonuria and Its Influence in Treatment of Diabetes Mellitus. C. v. Noorden.
139 Exostosis and Talalgia. (Le esostosi sotto-calcanee e la talalgia.) P. Reclus.
140 *Sign of Metastasis with Cancer of Pylorus. I. Tansini.
141 *Phloridzin Test of Liver Functioning. (Nuove indagini sul valore semeiologico della glicosuria florizinica, considerata come segno d' insufficienza epatica.) I. Teissier.

120. **Study of the Patient.**—The *Riforma* opens its twenty-seventh year with a special number containing brief articles from twenty-six leading internists. Baccelli closes his bedside lecture on a case of cancer involving presumably the

stomach and spleen, with the remark that as Cato, in ancient Rome, used to close all his speeches, on every occasion, with the words "Carthage must be blotted out," so he never lets an opportunity pass to reiterate that the study of the patient is the fundamental basis of all medical training, that the laboratory is made for the clinic, and that the clinic is the supreme authority at all times and on all occasions.

121. **Acute Sepsis in Children.**—Baginsky reports a case of general pneumococcus sepsis evidently originating in the tonsils. Pneumococci were found also in the appendix. In a second case staphylococci were responsible. He has noticed signs of primary visceral tuberculosis in twenty-four children dying from malignant scarlet fever in the last few years, and also in nineteen cases of malignant diphtheria but no signs of tuberculosis or syphilis were apparent in the majority of his cases of fulminating sepsis in children.

124. **Omentopexy for Recurring Ascites from Valvular Disease.**—Bozzolo reports a case in which the tendency to recurring ascites was completely cured by the Talma operation—omentopexy—to provide a collateral circulation. The patient was a woman of 30 who had had several attacks of acute articular rheumatism leaving a valvular defect with cardiac cirrhosis of the liver and abdominal dropsy. There were no signs otherwise of adhesive pericarditis and no traces of hepatitis were found at operation. A week later, the ascites had recurred and in the third week 6½ liters of fluid were withdrawn, and 8 liters again nearly three weeks later; after this the dropsy gradually subsided and by the end of two months there was no further trace of ascites and there has been no recurrence during the year and a half to date. Bozzolo knows of only one other case on record in which ascites from a cardiac defect was treated with omentopexy, and the result was equally successful.

125. **Prophylaxis of Malaria.**—Celli says that effectual prophylaxis of malaria requires time, organization, education, quantities of quinin and patient perseverance before it will be possible to eradicate the century-old plague of malaria in the endemic zones in Italy. The region is too vast for destruction of the mosquitoes by physical, chemical or biologic means, but with the aid of screening and quinin it would soon be possible to stamp out malaria even with persistence of the mosquitoes if it were not for the prejudice, the hatred of innovations among the authorities and the apathy and ignorance of the population, the obstacles and deficiencies of the rural public health service, the indifference of employers and the indolence of the local authorities. Preventive and curative quinin treatment is the natural base for the antimalaria campaign, he reiterates. This will cure and keep well the people in the endemic zones while the country is being drained and rendered fit for colonization—the ideal aim.

131. **Vertebral and Paravertebral Hepatic Dulness on the Left Side.**—Grocco calls attention to the extension on the left side of the area of hepatic dulness when the liver is enlarged. He has found the upper limit of the dulness extend for 7, 8, 10 or even 12 cm. beyond the median line in the back—a most instructive sign in some cases.

134. **Present Status of Specific Treatment of Tuberculosis.**—Maragliano comments on the increasing complexity of the morbid conditions as the tuberculosis progresses, other factors coming into play, secondary infection and the toxic products from disintegration of cells and bacteria, so that the primary influence of the tubercle bacilli is gradually overshadowed by the crowd of other pathogenic elements which in time dominate the situation. There is a vast difference, he reiterates, between tuberculosis and phthisis; the latter is a complex of dystrophic changes set in motion by the tubercle bacillus but having long outgrown its influence. Specific treatment of tuberculosis acts only on the primal tubercle bacilli and their toxins, and it is absurd to expect it to combat the other factors. If physicians will bear this in mind they will appreciate better the limitations of tuberculin treatment and not be disappointed when it proves impotent against the subsidiary but gradually overmastering factors.

135. **Chronic Thyroid Insufficiency.**—Marchiafava reports the case-histories of two men and a woman, between the ages of 44 and 55, who suffered for months or years from severe neuromuscular prostration, apathy and somnolency; they were incapacitated for business by dropping to sleep at any moment and snoring. The appetite and digestion remained normal but the face was swollen, although not edematous, and there was a tendency to obesity and chilliness; the skin was dry, the pulse weak and slow but regular, the gait uncertain and languid, the voice hoarse. The syndrome suggested possibly chronic uremic poisoning, but there was no headache or visual disturbance. He attributed the trouble to thyroid insufficiency and his diagnosis was confirmed by the prompt recovery under thyroid treatment. His records include two other cases of chronic hypothyroidism in which similar benefit was rapidly realized under organotherapy. In about two weeks all the patients had regained their strength and normal poise and resumed an active life. One patient had taken previously a long course of iodid as a preventive of dreaded arteriosclerosis, and this might have been responsible for the defective functioning of the thyroid; in the second case there had been a preceding attack of Malta fever which might have been the causal factor. The urine findings suggested chronic nephritis, but all these signs disappeared under thyroid treatment. The somnolency was the symptom that brought the patients to the physician, and the cure under thyroid treatment throws possibly some light on the mechanism of sleep. He warns that albumin and tube-casts in the urine must not always be ascribed to nephritis; his cases show that they may be the result of secondary changes in the kidneys from defective thyroid functioning and will subside as the latter is regulated.

136. **Serotherapy of Syphilis.**—Marinesco injected a few syphilitics with serum from other syphilitics who had been injected with salvarsan, but the results were disappointing.

138. **Acetonuria in Diabetics.**—The various types of diabetic acetonuria are here reviewed by von Noorden and the dietetic measures involved are discussed in detail.

140. **Abdominal Sign of Intestinal Metastasis of Pylorus Cancer.**—Tansini has noticed that with cancer at the pylorus the abdomen is sunken in, but that after metastasis has developed in the intestines the abdomen is no longer sunken in but has a normal aspect. In three such cases there was nothing to indicate the involvement of the intestines except the lack of this characteristic retraction of the abdominal walls which he has found constant with cancer at the pylorus. He was not positive enough in regard to the new sign to refrain from an operation on the pyloric cancer on that account alone. But in each instance the laparotomy revealed inoperable metastasis in the intestines.

141. **Phloridzin Glycosuria and Insufficiency of the Liver.**—Teissier presents evidence to show that the glycosuria which follows injection of phloridizin may be retarded or prevented by defective liver functioning even when the kidneys are intact. With diseased kidneys the liver may influence in part the reaction to the phloridzin test. The experiences with it show that the biologic phenomena are not simple but complex reactions, and that in pathology as in biology the functional synergy of the organs must be taken into account.

Hospitalstidende, Copenhagen

January 4, LIV, No. 1, pp. 1-24

142 *Direct Broncho-Esophagoscopy for Removal of Foreign Bodies. (Fjernelse af fremmede Legemer fra Lungen og Spiserøret.) E. Schmiegelow.

January 11, No. 2, pp. 25-48

143 Changes in the Secretion of the Cervix Uteri During Pregnancy. (Forandringer i Cervikalsekretet ved Svangerskab.) O. Jersild.

January 18, No. 3, pp. 49-72

144 *Salvarsan in Syphilis. C. Rasch.

145 Tenosynovitis in the Forearm. (Tenosynovitis i Iste Kulisse pa Antibrachium, ledsaget af Traktionsperiostitis paa Processus styloideus radii.) K. Poulsen.

January 25, No. 4, pp. 73-104

146 *Inherited Predisposition to Tuberculosis. N. J. Strandgaard.

147 The Air in Pneumothorax. (Undersøgelser over Pneumothorax.) F. Tobiesen.

142. **Foreign Bodies in Lungs and Esophagus.**—Schmiegelow describes nine cases in which under direct visual inspection it was possible to remove the foreign body promptly and without injury.

144. **Salvarsan.**—Rasch remarks in this discussion of his experience with salvarsan, that this drug will always stand as a milestone in the progress of medicine on account of the way in which it was introduced, instead of the manufacturing chemists casting their uncritically produced and untried remedies into physicians' hands. He adds that it is not every day that we encounter a remedy which seems to cure two diseases, relapsing fever and fowl spirillosis, while it has a powerful curative influence on two others, syphilis and frambesia, and is proving useful also in a fifth, quinin-proof malaria. He advocates giving salvarsan in syphilis in conjunction with mercury or in combination with other old antisyphilitic measures—such as antimony and potassium tartrate or chromium and gold compounds—which have recently been shown to have a destructive action on trypanosomes. A rational revival and combination of remedies has often given better results in Rasch's practice than a correspondingly large dose of a single drug, while the toxic action was much less. Ehrlich has also stated that his research on chemotherapy has confirmed the probable advantages of this method.

146. **Inherited Predisposition to Tuberculosis.**—Strandgaard has been studying conditions in eighty-nine families in which he has known of 197 cases of tuberculosis, and tabulates the details for comparison, listing the stage and extent of the pulmonary affection, the age at which it developed, the special symptoms and complications and the course. In twenty-three of the cases a parent and child were affected, in the others, brothers and sisters only. He does not draw any general conclusions.

Ugeskrift for Læger, Copenhagen

January 26, LXXIII, No. 4, pp. 105-140

148 *Recurring Mastoiditis. S. V. W. Jantzen.
149 *Unusual Causes for Restlessness in Infants. (Et Par vigtige Affektioner hos spæde Børn.) F. Ingerslev.

148. **Recurring Mastoiditis.**—Jantzen tabulates the details of twenty-one cases of recurring mastoiditis in which a second operation was required; the total mastoid operations at Mygind's clinic during the period 1905 to date was 225. Only one of the patients with recurrence was an adult. The interval ranged from a few months to five years. He discusses the causes for recurrence and the means to avoid and treat it, reviewing considerable literature on the subject.

149. **Unusual Causes for Restlessness in Infants.**—Ingerslev discusses adhesive balanopostitis and fissure of the anus as liable to make infants fret and cry when none of the usual causes for restlessness can be discovered. He thinks that fissure of the anus is much more common than is generally recognized.

Correction.—Serodiagnosis of Syphilis.—The temperature specified in the sixteenth line of abstract 95, page 547, *Feb. 18, 1911*, should have been 55 C. instead of 65 C., as printed.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

MODERN TREATMENT. The Management of Disease with Medicinal and Non-Medicinal Remedies. In Contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Med[illegible] College, Philadelphia, Assisted by H. R. M. [illegible] of the Clinical Department of the Phipps [illegible] of Pennsylvania). In Two Volumes. Vo[illegible] $6 net. Pp. 900, with 88 illustrations. Philadelphia: Lea & Febiger (1911).

MODERN DIAGNOSIS AND TREATMENT OF DISEASES OF CHILDREN. A Treatise on the Medical and Surgical Diseases of Infancy and Childhood, with Especial Emphasis on Clinical Diagnosis and Modern Therapeutics. For Practitioners and Students of Medicine. By Herman B. Sheffield, M.D. (Co-Author of "Practical Pediatrics"), Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital. Cloth. Price, $4.50. Pp. 619, with illustrations. Philadelphia: F. A. Davis Co., 1911.

TRANSACTIONS OF THE FOURTH INTERNATIONAL SANITARY CONFERENCE OF THE AMERICAN REPUBLICS. Held in San José, Costa Rica, Dec. 25, 1909, to Jan. 3, 1910. Cloth. Pp. 209, with illustrations. Published and Distributed Under the Auspices of the Pan-American Union, John Barrett, Director-General, Washington, D. C., 1910.

MEMORANDA ON POISONS. By Thomas Hawkes Tanner, M.D., F.L.S. Eleventh Edition. By Henry [illegible] Professor of Chemistry in the Woman's [illegible] sylvania. Cloth. Price, 75 cents net. [illegible] P. Blakiston's Son & Co., 1911.

PRACTICAL DIETETICS WITH REFERENCE TO DIET IN DISEASE. By Alida Frances Pattee, Graduate Department of Household Arts, State Normal School, Farmingham, Mass. Sixth Edition. Cloth. Price, $1.50. Pp. 475. Mount Vernon, N. Y.: A. F. Pattee, 1910.

SOME PLAIN FACTS ABOUT CONSUMPTION OR PULMONARY TUBERCULOSIS. Prepared by F. G. Stroud, M.D. Paper. Free on Receipt of Stamp. Pp. 7. Moorestown, Burlington County, N. J.: Board of Health, Chester Township (1911).

THE SHIP-SURGEON'S HANDBOOK. By A. Vavasour Elder, M.R.C.S., L.R.C.P., Surgeon, White Star Line. Second Edition. Cloth. Price, 5 shillings net. Pp. 387. London: Baillière, Tindall and Cox, 1911.

REPORT OF COMMISSION ON OCCUPATIONAL DISEASES TO HIS EXCELLENCY GOVERNOR CHARLES S. DENEEN. January, 1911. Paper. Pp. 219, with illustrations. C. R. Henderson, Secretary, University of Chicago.

PLASTIC AND COSMETIC SURGERY. By Frederick Strange Kolle, M.D., Fellow of New York Academy of Medicine. Cloth. Price, $5. Pp. 511, with 522 illustrations. New York: D. Appleton & Co, 1911.

WHO'S WHO. 1911. [BRITISH.] An Annual Biographic Dictionary. Sixty-Third Year of Issue. Cloth. Price. $2.50 net. Pp. 2246. New York: The Macmillan Co., 1911.

TRUTHS: TALKS WITH A BOY CONCERNING HIMSELF. By E. B. Lowry, M.D., Author of "Confidences." Cloth. Price, 50 cents. Pp. 95. Chicago: Forbes & Co., 1911.

ANNUAL REPORT OF THE ASYLUM FOR CHRONIC INSANE, MILWAUKEE COUNTY. For the Year Ending Sept. 30, 1910. Paper. Pp. 55. Wm. F. Beutler, M.D., Supt.

New Patents

Recent patents of interest to physicians.

965555. Dispensing device for soda fountains. William H. Becker and C. W. Steed, St. Louis.
965556. Abdominal bandage. Josef Beltermann, Mannheim, Germany.
965273 and 965557. Making cuprammonium solution. Henry Bernstein, Philadelphia.
965276. Pocket sputum cup. John A. Brooke, Wilkes-Barre, Pa.
965564. Sanitary cover for flesh-contact implements. George H. Coates, Worcester, Mass.
965165. Shaker bottle. John L. Dunnock, Baltimore.
965174. Stethoscope. Nathan Fuchs, Chicago.
965704. Valve for carbonated liquid receptacles. George Goldberg, Amsterdam, Netherlands.
965630 and 965631. Briquet for making oxygen. George F. Jaubert, Paris, France.
965393. Einar H. Meyer and J. M. A. Stillesen, Niagara Falls, Ontario, Canada.
965533. X-ray screen or shield. Charles H. Meyers, Buffalo, N. Y.
965219. Quick-threading surgical needles. Martinus J. C. Nyborg, Minneapolis, Minn.
965257. Antiseptic mouthpiece cover. William H. Waldron, San Francisco, Cal., and L. R. Krumm, Columbus, Ohio.
966221. Truss. Walter Lange, Zwickau, Germany.
966225. Artificial leg. James A. Long, Fair Mount, Ga.
966050. Spirometer. George W. Ramage, New York.
966136. Compound or emulsion and production of same. Julius Stockhausen, Crefeld, Germany.
965966. Formalin vaporizer. Jena J. Van Dandaigue, Montreal, Quebec, Canada.
966642 and 966643. Medicament and making the same. Albert D. Barr, Batesville, Ark.
966786. Producing medicaments. Albert D. Barr, Jersey City, N. J.
966787. Supporting belt or truss. Henry L. Benner, East Mauch Chunk, Pa.
966900. Disinfector. George H. Garnet, Allentown, Pa.
966748. Combined stopper and connection for water-bottles. Jacob Honecker, Cleveland, Ohio.
967125. Syringe. John B. [illegible]
966838. Antiseptic body ger[illegible] Jaffee, Hoboken, N. J., and E. M. [illegible]
966840. Automatic mercury dropper. Ernest C. Ketchum, Boston.
967136. Hypodermic syringe. John E. Lee, Conshohocken, Pa.
966696. Method and apparatus for marking *x*-ray negatives. Walter H. Merrill, Washington, D. C.
966863. Abdominal supporter. Laura N. Saemann, Oak Park, Ill.
967081. Abdominal supporter. Samuel H. Sublett, Sr., Hatton, Ark.
966872. Pasteurizing apparatus. August Tiesse, Chicago.
967488. Making barium sulfite. Le Roy Baker, St. Louis.
967736. Suspensory bandage. Samuel D. Delp, South Bethlehem, Pa.
967638. Bed-pan. Daniel Hogan, Hoboken, N. J.
967533. Cushion for bed-pans. Amanda R. Logan, East Chelmsford, and M. A. L. Barelle, North Reading, Mass.
967805. Bone-saw. August Meyer, Oakland, Cal.
967547. Strap for surgical bandages, corsets, etc. Mary C. Ninde, Fort Wayne, Ind.
967840. Medicinal soaps. Walter Schoeller and W. Schrauth, Berlin, Germany.
967450. Combined mixer and sprinkler. Zalmon G. Sholes, New York.
967852. Dispensing container. Clarence E. Stubbs, Baltimore.
967584. Casein derivatives or compounds and making the same. Rudolf Tambach, [illegible] Germany.
967269. Surgical appliance. [illegible]
967688. Topical medicated p[illegible] Formby, England.
967469. *X*-ray apparatus. Harry F. Waite, New York.

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CESAREAN SECTION, WITH SPECIAL REFERENCE TO THE TIME OF OPERATION AND ITS TECHNIC *

LEWIS S. McMURTRY, M.D., LL.D.
LOUISVILLE, KY.

One familiar with the history and progress of abdominal surgery must be impressed with the similarity in the development of ovariotomy and Cesarean section. The latter operation is much older than ovariotomy, but the indications for its application are less definite and positive, and it has been universally regarded as a final and desperate effort at delivery when other measures have been tried and have failed. Like ovariotomy in its early development, Cesarean section has been fostered under the care of a few operators, who have struggled on in their efforts despite the discouragement of a heavy mortality. That the Cesarean operation is so far behind ovariotomy and hysterectomy in professional favor and in general application when indicated is due for the greater part to the fact that the surgeon competent to do the operation rarely has access to the patient until she is exhausted, often infected, by futile efforts at instrumental delivery. With patients afflicted with ovarian and uterine tumors no other operation is considered prior to ovariotomy and hysterectomy, and the operations are eminently elective, instead of being, as too often obtains with the Cesarean section, operations of emergency.

The patients requiring delivery by abdominal hysterotomy who are so fortunate as to be confined in maternity hospitals, where every modern facility and surgical skill are at command, compose only a small proportion of the great number who meet the same issues of life and death amid the disadvantages of confinement in their own homes.

The late Dr. R. P. Harris, of Philadelphia, writing in 1889, reported that there had been 175 Cesarean operations in the United States with 110 deaths. He also states that from April, 1884, to February, 1885, six Cesarean sections were done in this country and all of the mothers and children died.[1] Lusk reports on high authority that in the lying-in hospital in Vienna during the nineteenth century up to 1880, not one woman had survived Cesarean section. On equally high authority, he reported that in Paris up to 1873 there had not been one successful Cesarean section in eighty years. I beg to follow this report of Lusk showing the results of the operation prior to the antiseptic era, and the report of Harris after the antiseptic era, but prior to the perfection of aseptic methods and before the general adoption of Sänger's technic, with present-day results.

In Germany the operation has attained a high degree of perfection in the hands of Sänger, Leopold and Olshausen. The latter (Olshausen) has reported a series of sixty-five cases with a mortality of 4.6 per cent. Reynolds, of Boston, reports in 1907 thirty cases without a death. In all these cases the operation was primary; it was elective, and the patients had not been subjected to repeated examination and efforts at delivery. These results mark the standard that can be attained by early examination, hospital facilities and surgical skill.

Dr. Asa B. Davis, of the Lying-in Hospital in New York, reports (September, 1910) that in a service of 68,200 obstetrical cases at that hospital there were 256 Cesarean sections performed. The maternal mortality was 14.06 per cent.; the fetal mortality 20.08 per cent. Of these, seventy-eight operations were performed by Dr. Davis, with a maternal mortality of 16.67 per cent. Of these thirteen deaths, the report gives among causes of death the following: "prolonged labor, sepsis, suppression of urine; midwife in charge for twenty-four hours"; another "prolonged labor, sepsis before admission to hospital"; and "prolonged attempt at high forceps by private physician; general streptococcemia." Twelve of the sixty-seven women had had repeated Cesarean sections; one had undergone the operation three times and one five times. In some of these cases the operation was necessitated by multiple sarcoma of abdominal and pelvic viscera, or by carcinoma of cervix and vagina; and there were seven cases of eclampsia. A study of this report will convince one that if every reasonable advantage be utilized, if the operation be not delayed and if the patient is not infected beforehand, this operation can be done under proper hospital conditions, in uncomplicated cases, with a mortality as low as that of ovariotomy.

As with all abdominal operations, the splendid results of the present time have been made possible by the discovery and perfection of aseptic surgery. In 1876 Porro made the great contribution to the operation which has forever attached his name to the radical operation. To Cesarean section as previously performed he added hysterectomy. By this procedure both hemorrhage and sepsis were materially lessened. It gave a great impetus to the operation, and in labor complicated by uterine neoplasms will remain a standard and perfected operation. The greater number of the Cesarean operations done by me have been based on this indication, and consisted of the Porro operation with retroperitoneal treatment of the pedicle. It is an ideal operation under such conditions.

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* Read before the Southern Surgical and Gynecological Association, at Nashville, Tenn., Dec. 14, 1910.

[1] American System of Obstetrics, 1889, Philadelphia, Lea Bros. & Co.

In 1882 Sänger made his epochal contribution to the technic of Cesarean section. Previous to this time, after incision of the uterus and delivery of fetus and placenta, the uterine walls were left to be approximated by the physiologic contraction of the uterus. Sänger demonstrated the importance of suturing the uterine incision with deep sutures down to, but not including, the uterine mucosa, and adding a neat suturing of the peritoneum over the entire length of the incision. As a result of Sänger's addition to the technic of the operation, and the simultaneous improvement in aseptic surgery, the operation was at once followed by unprecedented success and has attained its present high place as an operation of choice.

The operation as practiced by Sänger consisted of the median abdominal incision midway of the abdomen; turning the uterus out of the abdomen before opening it; two or three sutures were placed at the upper angle of the abdominal incision and tied after the uterus was delivered to protect the subjacent peritoneum; a sheet of rubber was then placed beneath the uterus to protect the lower peritoneum; the cervix was constricted with rubber tubing to control hemorrhage; the uterus was incised through its anterior wall vertically; fetus and placenta delivered; the rubber tube removed as soon as uterine contraction obtained; the uterine sutures were of silk and were placed as already described; before any of the sutures were tied the uterine cavity was washed out with an antiseptic solution, and the uterine cervix dilated to insure drainage. The uterus was then returned to the abdomen, and the abdominal incision closed.

As in all abdominal operations, this operative procedure as devised by its author has been simplified with experience. It was soon discovered that the elastic tube placed around the cervix produced atony of the uterus and predisposed to post-partum hemorrhage; also that it frequently encircled the child's head and interfered with delivery. The constricting tube was first replaced by manual compression of the uterine arteries by an assistant. Later even this was found to be unnecessary, as the hemorrhage can be effectually controlled by the pressure of a gauze towel packed into the uterine incision while the sutures are being placed. The uterus need not be brought out through the abdominal incision, and all exposure and handling of the abdominal viscera should be avoided. At the beginning of the operation an assistant should place his hands flat on the abdominal wall, one on each side, hold the uterus steady, and keep the abdominal wall closely in apposition with the uterus. A double tenaculum at the upper angle of the uterine incision, another fixed in the lower angle, will give the operator perfect control of the uterus while incising and suturing that organ. The utmost care should be observed to protect the peritoneum from the amniotic fluid. Davis assures us that in no instance has he found it necessary to dilate the cervix to secure drainage. No application of any kind should be made to the uterine cavity after the fetus and placenta have been delivered. The suture material best adapted for the uterine incision is chromic catgut, No. 2. The after-treatment is the same as that of other abdominal operations.

The operation should be performed with the same deliberate care and expedition as are observed in other abdominal operations. There seems to be a general impression on the part of surgeons that exceptional rapidity bordering on haste should characterize the steps of the operation. There is no valid reason for this. Davis makes the abdominal incision above the umbilicus, and the uterine incision just below the fundus of that organ. I do not believe that the site of the incision is of essential importance. The abdominal wall at the full term of pregnancy is thin and relaxes easily. As soon as the abdominal incision is made and the uterus exposed, long gauze pads wrung out of warm salt solution are placed within the abdomen to hold back the omentum and intestines and protect peritoneal surfaces while the uterus is being emptied and closed.

Unfortunately, in the majority of cases, the operator has no choice as to the time of election for the operation, the patient being usually in active and prolonged labor when he is called on to operate. When the patient is under observation in advance and choice of time for operation can be made, it is preferable to operate after labor has assuredly begun. To elect this time from the menstrual history is inaccurate and will not infrequently result in the delivery of a premature child. No dilatation of the cervix or preliminary vaginal operation, other than thorough cleansing of the vagina, should be done.

With the demonstrated results of Cesarean section, as now obtained, the scope of the operation must necessarily be widened and its application greatly extended. What is most needed at the present time (and this thought has inspired this paper), is an active interest on the part of all abdominal surgeons, and such a campaign of education as was successfully applied some years since in behalf of early operation in other conditions requiring prompt surgical intervention. It is established that the primary Cesarean operation in skilled hands has a mortality quite as low as uncomplicated ovariotomy and clean hysteromyomectomy. With repeated examinations, cervical dilatation and application of forceps, carried out with crude and desultory observance of aseptic precautions, the mortality of abdominal hysterotomy is unnecessarily increased. The cooperation of the surgeon and the general practitioner is necessary to correct this fatal error.

Fourth and Chestnut Streets.

THE MOBILIZATION OF JOINTS BY MEANS OF THE RUBBER BANDAGE

A. C. STRACHAUER, M.D.
Associate Surgeon, Minnesota University Hospital
MINNEAPOLIS

The mobilization of joints is a common field of neglect. The patient with a stiff joint following fracture is often told that time alone will bring a restoration of the normal range of motion, which is in a degree true, but the patient so dismissed feels, and is, neglected, for much time can be saved for him by proper treatment. Not this alone, but many a brilliant success in fracture treatment is greatly overshadowed in the patient's estimation by the resultant stiffness following the removal of splints. In addition to the cases in which time alone usually successfully obtains the normal range of motion, is the group of immovable joints, and cases of limited range, which, if neglected, do not improve, and which, with the exception of those of bony ankylosis, exuberant callus or displaced fragments following fracture—cases of mechanical obstruction to be relieved alone by operation—brilliantly respond to proper treatment in various degrees.

The causes of the stiff joint following fracture, exclusive of the results of direct injury of the joint, are: edema, atrophy, shortening and loss of elasticity of muscles and the periarticular tissues; cicatricial contraction and fibrous changes, more common in suppurating open fractures, and traumatic arthritis. This stiffness of joints, as is well known, obtains not only in the structures directly involved but in the related joints of the extremity, due to a coincident sprain or to enforced quiet, as a part of the dressing; i. e., stiff knee after fracture of thigh; stiff elbow, wrist and fingers after fracture of arm.

TREATMENT

Massage, hot and cold baths, high dry heat, active motion, *less passive motion,* and the method of mobilization by means of the rubber bandage to be now described, and which is not intended to replace or minimize the importance of the first mentioned measures, constitute the treatment.

Gradual strong flexion and extension is obtained by the application of a rubber bandage of the ordinary 2½ inch variety, or of double weight for most of the dressings. The manner of the application is made in accordance with the indications and requirements of each case, and is so made that the contraction of the bandage takes place in the line of the desired increase of motion; that is, in the line of normal movement.

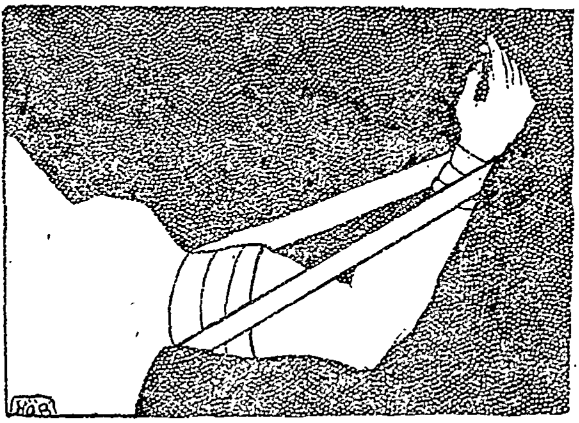

Fig. 1.—A method of securing flexion of the elbow-joint by means of a rubber bandage.

The elastic contraction of the rubber bandage by its gradual, even, confidence-gaining quality, overcomes, first, the voluntary and spasmodic contraction of the guarding, protecting muscles and tires them out. Complete relaxation is so obtained, at which stage the contraction of the rubber bandage is exerted on the shortened, contracted structures and mechanically stretches them. By this means, at one sitting, a range of motion far greater than can be obtained by passive movement is realized, which is not followed by so great an irritative reaction and which is not so painful as effective passive movement. The patient's confidence in making greater active movements is also greatly increased by the demonstration of the degree obtainable with the rubber bandage, and his cooperation from now on is obtained.

A small amount of pain and discomfort is permissible during the treatment, the length of which is controlled by the patient's fortitude and disposition, the rule to be strictly adhered to being that the joint should not be tender on the following day. The first several applications are made every second day, after which they should be made daily.

Joints of false or fibrous ankylosis, in which there is no danger of making active a quiescent infection, should be broken up under anesthesia, the reformation of such ankylosis prevented, and the mobility increased by beginning on the second day following the forcible procedure, the application of the rubber bandage method.

TECHNIC IN SPECIFIC CASES

The Elbow-Joint.—For flexion: Secure the initial extremity of the rubber bandage without stretching by several circular turns around the forearm, just above the wrist; carry the stretched bandage to the upper end of the arm, making one unstretched circular turn around the limb, and then return with stretched bandage to the starting place above the wrist, where a single circular unstretched turn is made. Repeat the application between the wrist and arm several times with the bandage on the stretch, omitting the circular turns (Fig. 1). In certain cases it is of advantage to modify this dressing and those portions of the following in which the rubber bandage is secured by completely encircling the limb, by fastening by a gauze or muslin bandage at such places a large wooden curtain ring of the ordinary variety, the stretched rubber bandage being then carried through these rings instead of surrounding the limb, so insuring security and avoiding any possible constriction of the circulation (Fig. 2).

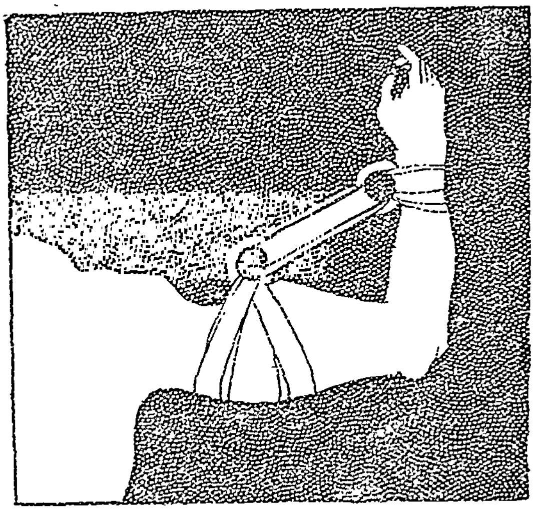

Fig. 2.—Another method of securing flexion of the elbow-joint; curtain rings are secured to the arm and wrist, through which the rubber bandage is drawn.

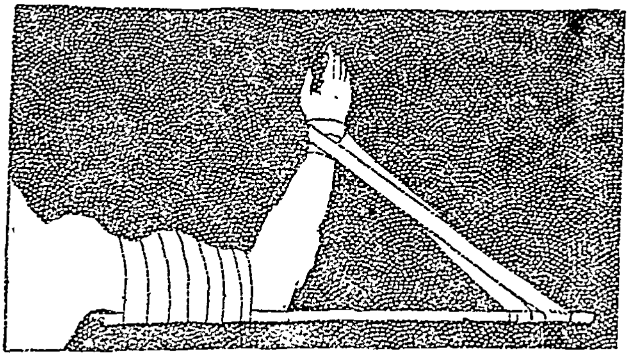

Fig. 3.—Method of securing extension of the elbow-joint. A straight splint is secured to the arm by means of a roller bandage and extension is made from the distal end of this by means of the rubber bandage encircling the wrist.

For extension: Fasten securely to the arm, by an ordinary gauze bandage, a firm, straight posterior splint, somewhat longer than the length of the complete upper extremity. Secure the initial extremity of the rubber bandage by several unstretched circular turns around the forearm just above the wrist; carry the stretched bandage to and around the free extremity of the posterior splint, and return with stretched bandage to the starting-place, repeating the application between forearm and splint a half a dozen times (Fig. 3).

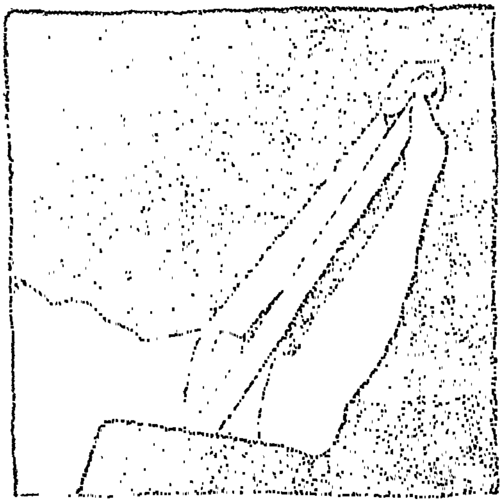

Fig. 4.—Method of securing extension of the wrist. The rubber bandage encircles the arm above the elbow and the hand around the palm.

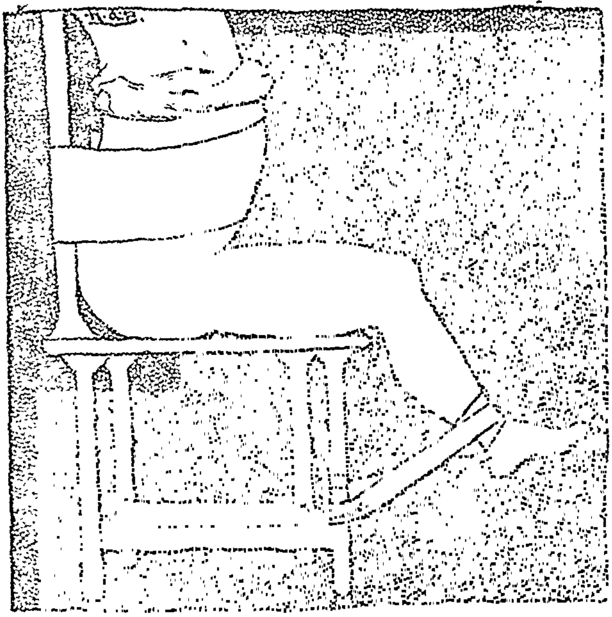

Fig. 5.—Method of applying the rubber bandage to secure flexion of the knee-joint. The patient sits on a chair and the bandage encircles the ankle and the leg of the chair.

The Wrist.—For flexion: Flex the supinated forearm on the arm at a right angle. Secure the initial extremity of the rubber bandage by several unstretched turns transversely around the hand; carry the stretched bandage over the flexor surface of the forearm to the lower end of the arm and make a single unstretched turn around the arm just above the elbow. Return with the stretched bandage over the flexor surface of the arm to the hand, and repeat the application between the hand and the arm several times.

For extension: Flex the pronated forearm on the arm at a right angle. The stretched bandage is carried over the extensor surface of the forearm; otherwise the application is the same as for flexion (Fig. 4).

For Finger and Thumb Joints.—For flexion: Completely cover and include the hand in a rubber bandage, the applications over the dorsum of the hand being made with unstretched bandage, and those over flexor surface or palmar surface being made with stretched bandage, securing by unstretched turns around the wrist. This may be combined with bandages for mobilization of the wrist-joint as described above.

For extension: Apply the stretched rubber bandage around the fingers and around the projecting extremity of a suitable posterior splint.

These hand bandages may be applied in Dupuytren's contraction, after operative extirpation of the contracted cirrhotic palmar fascia, and should also be instituted as early as possible after cases of suppurative tenosynovitis to prevent and break up the adhesions between the tendons and tendon sheaths.

The Knee-Joint.—For flexion: A strong chair of a height such that the feet of the seated patient hang free of the floor is necessary. These conditions can be met by the ordinary chair for an adult being placed on and at the edge of a firm table, box or platform. The patient is seated in the chair and secured by a broad bandage carried around the patient's body and back of the chair. A surcingle supplies the purpose very well. Fix the initial extremity of the rubber roller by several unstretched circular turns around the leg just above the ankle; carry the stretched bandage to and around the lower end of the corresponding leg of the chair, and back again to the starting place. Repeat the applications with stretched bandage several times (Fig. 5).

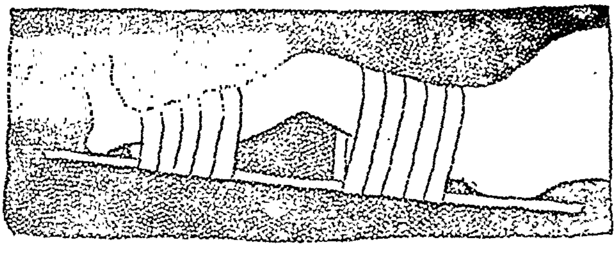

Fig. 6.—Extension of the knee-joint. With the limb on a long posterior splint held by loose gauze bandages, the rubber bandage is made to enclose the knee-joint and the splint, thus producing traction.

For extension: The method by pulley and weight is usually superior to the application of rubber bandage with a posterior splint, and is always to be used in cases of extreme contraction. When the flexion is slight and approximates the complete extension, the rubber bandage method is of value. Application: With the limb on a long strong posterior splint held by loose gauze bandage, place the initial extremity of the rubber roller at the lower end of the thigh just above the knee-joint, and fix by making one or two circular turns over the thigh, and around and including the posterior splint. Repeat the turns a half dozen times with the rubber bandage on the stretch. Repeat the same rubber bandage at the upper end of the leg just below the knee (Fig. 6).

I wish to give full credit to Momburg of the Bier Clinic, Berlin, for originating the idea of making use of the rubber bandage in the mobilization of joints.

704 Pillsbury Building.

THE CONTROL OF PASTEURIZATION[*]

GOTTFRIED KOEHLER, M.D.
Assistant Commissioner of Health

AND

F. O. TONNEY, A.B., M.D.
Director of Municipal Laboratory

CHICAGO

The proper control of milk pasteurization is highly important at the present time—not only to the sanitarian and the public, but also to the conscientious milk-dealer.

Pasteurization as commonly practiced is the heating of milk to a temperature varying from 140 to 185 F. for varying periods of time. This heating may or may not effect the results intended, and the product consequently may or may not be free from the constituents which are intended to be removed or destroyed by the process.

Pasteurization has been lauded and condemned. The misunderstandings are based on the different meanings of the term with reference to the amount of heat applied, the time of exposure and the results accomplished. Practically, pasteurization is resorted to for two reasons: first, and very extensively, to enhance the keeping qualities of the milk. This is accomplished by destroying or materially reducing the number of acid-producing bacteria. Inasmuch as this kind of pasteurization is for commercial purposes the lowest temperature which will serve to accomplish the desired result is employed. Milk treated in this way is not usually rendered safe from a sanitary standpoint, but is nevertheless, often advertised and tendered to the public as germ-free and safe milk. The conception of pasteurization held by some men is that the process described above is intended when pasteurization is recommended as a means of procuring a safe milk-supply for large cities, or when pasteurization is accepted in lieu of testing cows for tuberculosis or of instituting adequate inspection of dairies for contagious diseases.

Secondly, pasteurization is resorted to as a means of securing a safe milk-supply that could not otherwise be procured in large enough quantity to supply our rapidly increasing urban populations. In this case the pasteurization must be controlled and cannot be carried out in the manner ordinarily practiced in a purely commercial way for the simple purpose of enhancing the keeping qualities of the product.

Municipal authorities are becoming more and more active in safeguarding of cities against frequently contagious and infectious diseases, and in this work have frequently traced such infections to the milk-supply.

The need of safeguarding milk-supplies is becoming more and more imperative by reason of the relatively low price of milk and milk products, which has compelled the farmer to practice intensive dairying in order to make the business at all profitable. This has reacted on the dairy cows. The animals have been kept with the prime object of minimizing loss of energy. Exercise in the open air has been sparingly allowed. In housing the proper means of ventilation and lighting have often been disregarded. With these essential conditions neglected the resistant forces of the overworked dairy cows have been materially lowered, and a field has been prepared for the spread of tuberculous infection.

The effort thus far made to eradicate tuberculosis in cattle has served to demonstrate very clearly that for the present at least the killing and disposing of all tuberculous animals is impractical. Compensation by the state for animals condemned and destroyed is in many sections impossible on account of the magnitude of the valuations involved. The segregation of the animals according to the Bang system necessitates the pasteurization of the milk, if it is to be used. This pasteurization, in order to be effective against the spread of tuberculosis, must be properly carried out.

Our efforts to inspect the dairy farms supplying our large cities, for infectious diseases, such as typhoid fever, scarlet fever, etc., are at present rendered ineffective by the concerted opposition of the dairymen, physicians in charge of the cases, and health officers residing in the rural communities.

It is certain that this factor of human contagion cannot be controlled in Chicago without increasing the present force of inspectors manifold. From a medical standpoint, it will always be difficult or impossible to recognize the prodromal stage of measles, incipient tuberculosis, abortive cases of scarlet fever, mild non-exudative cases of diphtheria, and especially the so-called typhoid carriers.

The only practical way to eliminate the spread of contagious diseases under present conditions seems to be the proper pasteurization of the milk; and here again improper pasteurization would serve merely to foster a false sense of security. If the public is to be safeguarded, it must be adequately safeguarded, and this means that pasteurization practiced for the purpose of destroying the disease-producing bacteria must be subject to control by health authorities.

In taking up the subject of control of pasteurization, due consideration should be given to the various kinds of standards which may be made use of. These for the purposes of this paper will be classified under the following three headings: (1) chemical standards; (2) physical standards, and (3) bacterial standards.

CHEMICAL STANDARDS

Chemical standards have been suggested from time to time for control of the pasteurized product, but in practice they have not proved satisfactory. It is a well-known fact that milk heated above 176 F. fails to show the blue color when the Stork test for enzymes is applied. Our investigations have shown that the results obtained by this reaction are not very uniform and are dependent on a number of factors, including primarily the degree of temperature, and, to a certain extent, the time of exposure. Pjaden, working in the Kaiserliche Gesundheitamt, found that the amount of peroxidases on which this reaction depends varied considerably in the milk obtained from different breeds of cows. Finally, it is of great importance to recognize that certain bacterial products developing in consequence of bacterial multiplication in pasteurized milk have the property of transferring oxygen, and hence may be classed with the peroxidases. The other reactions for peroxidases, such as the guaiac test and the aloin test, are subject to the same influences and errors as the Stork reaction. Practically, then, the Stork test, or any test depending on the recognition of the peroxidases in the milk, is valuable only in determining that the milk has been recently heated above 176 F. It would of course also serve to detect all forms of boiled or sterilized milk.

The tendency at the present time, however, is to heat to as low a temperature as possible and only for a period such as will serve to kill all pathogenic organisms and a sufficient number of saprophytes, and at the same time preserve the natural flavor and chemical composition of the milk. Exposure to heat above certain limits so alters the physical condition of milk that the cream does not rise naturally, but remains more or less completely emulsified. The public commonly judges the quality of milk by the amount of cream that has risen, especially in bottled milk, in which the cream line can be so clearly determined. Thus the demand to apply sufficient heat to destroy the peroxidases would necessitate the production of a pasteurized product of inferior commercial value, speaking of values as they are now appreciated. Such a demand would necessarily be harmful at the present time to the business interests of the dealer who is trying to place on the market a safe milk.

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[*] Read at the annual meeting of the American Public Health Association, Milwaukee, Wis., September, 1910.

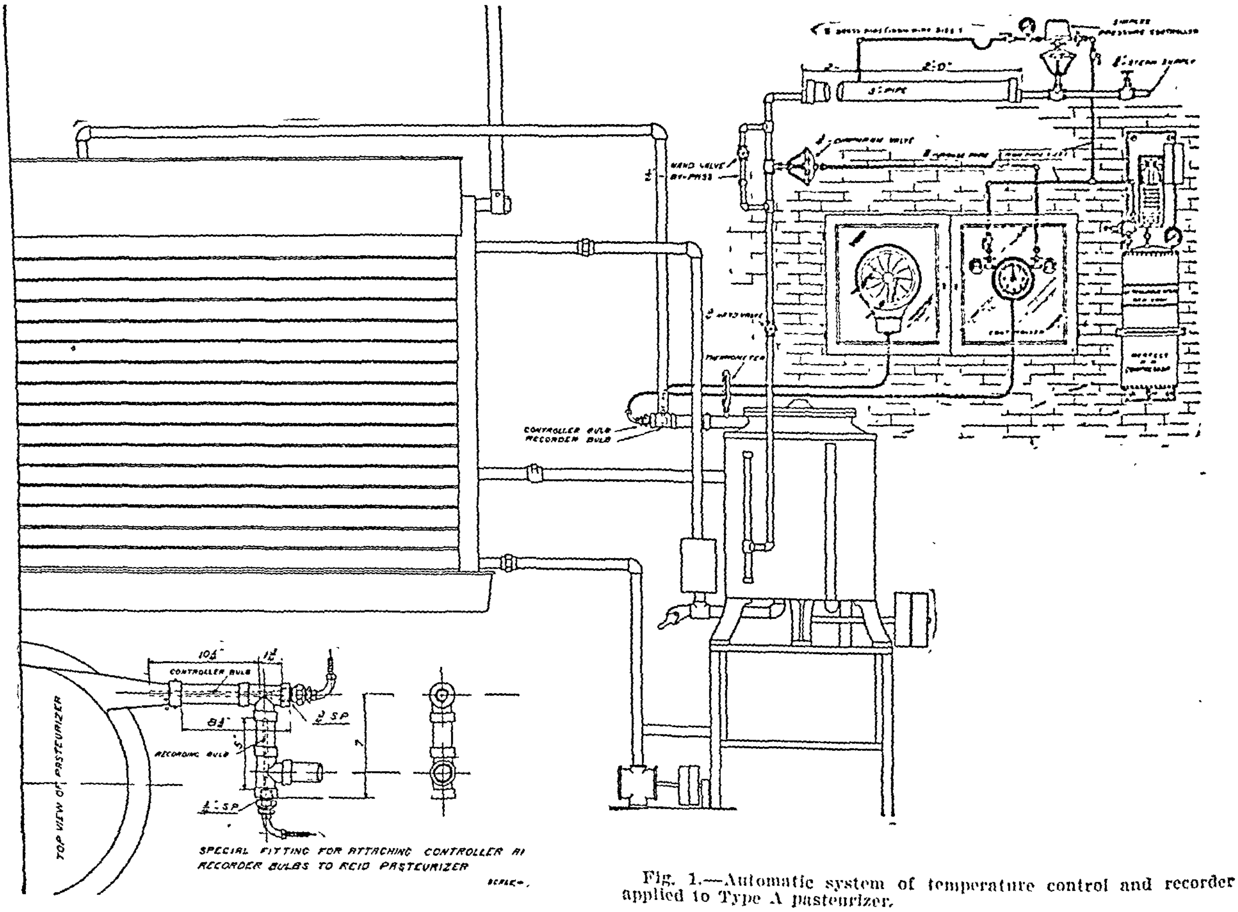

Fig. 1.—Automatic system of temperature control and recorder applied to Type A pasteurizer.

PHYSICAL STANDARDS

Physical standards, such as the degree of temperature employed and the time of exposure are most valuable in properly controlling pasteurization. In the case of continuous or so-called flash pasteurization, the degree of heat to be applied should be made to conform to certain minimum theoretical temperature standards plus such additional heat as may be required to kill about 99 per cent. of the bacteria in the raw product, both of which requirements will be discussed later. We have found that the time of exposure varies so much and is so indefinite of determination in the different types of flash machines, that it is practically impossible to prescribe the required amount of heat for a given type without determining this experimentally. The pasteurizer so operated should be equipped with a feed-pipe, which is so constructed that the pasteurizer cannot be fed in excess of its normal working capacity; that is, in excess of the working capacity of the machine at which 99 per cent. of the bacteria are killed when the required amount of heat is applied. After having determined either experimentally or theoretically the amount of heat required, it then becomes necessary to control this factor properly. This can be done most satisfactorily by equipping the pasteurizing machine with an apparatus regulating automatically the supply of heat or steam, so as to produce the required temperature of the outflow of the pasteurized product. Furthermore, a recording apparatus should be installed, to record during operation the temperature of the pasteurized product as it flows from the heater. The thermometer of this recording apparatus must be kept merged in the milk in such a way that it is not exposed to escaping steam or any other sources of heat than the heated milk. The records of the recording thermometer are made in a closed chamber, which may be kept under lock and key in the control of the sanitary officer or superintendent of the establishment, as the conditions may require. Daily temperature records show more accurately the lesser degrees of fluctuation, while weekly records are more convenient in those cases in which it is necessary to keep the records under lock and key in control of the sanitary officer. Temperature records kept in this manner indicate to the sanitarian the degree of efficiency, and to the operator of the plant are a valuable means of obtaining more perfect and uniform pasteurization. Commercially, this means less sour milk and less complaint from dissatisfied customers.

Whenever a holding device is employed whereby the milk is held at the temperature of exposure for a longer period of time, the control by graphic records becomes somewhat more difficult. The mechanism of the pasteurizer, or rather pasteurizing system, is more complex and of the two important elements, namely, the temperature and the time of exposure, the time of exposure is relatively difficult to control.

The temperature may be controlled by an automatic regulator and recording apparatus, as indicated for continuous pasteurization. The time of exposure, however, may be changed by changing the mechanism of the machine. Such changes can readily be detected by an inspector on the ground, but cannot be indicated by any simple graphic record, although practically such a recording apparatus could probably be constructed. Diagrams showing the construction of satisfactory temperature-regulating and recording devices are herewith appended.

a temperature of 71 C. or 160 F. for one minute is sufficient to kill the tubercle bacillus in milk.

For holding devices the heat requirements determined experimentally by Rosenau should guide us in determining the required time and temperature. Rosenau concluded from his experiments that tubercle bacilli and other pathogenic bacteria in milk lose their infective properties when heated to 60 C. (or 140 F.) and maintained at that temperature for twenty minutes, or to 65 C. (or 149 F.) for a shorter period of time.

The minimum temperature requirements usually set are, therefore, for the continuous type of pasteurizer, 160 F. for one minute; for the machine equipped with a holding device, 140 F. for twenty minutes.

The percentage reduction standard usually adopted is a 99 per cent. reduction in the bacterial content of the raw product. This, however, is not applied strictly, but in conjunction with a minimum allowable count of 100,000 per cubic centimeter, it being recognized that it is perfectly possible to produce a satisfactory product from initially good milk without an absolute 99 per cent. reduction, and on the other hand that a 99 per cent. reduction in an initially bad milk may still contain too many bacteria for safety. The strict application of the 99 per cent. standard places a premium on the use of raw milk having an initially high bacterial content. This is of course undesirable and is readily eliminated by application of the double standard (percentage reduction in conjunction with minimum allowable count).

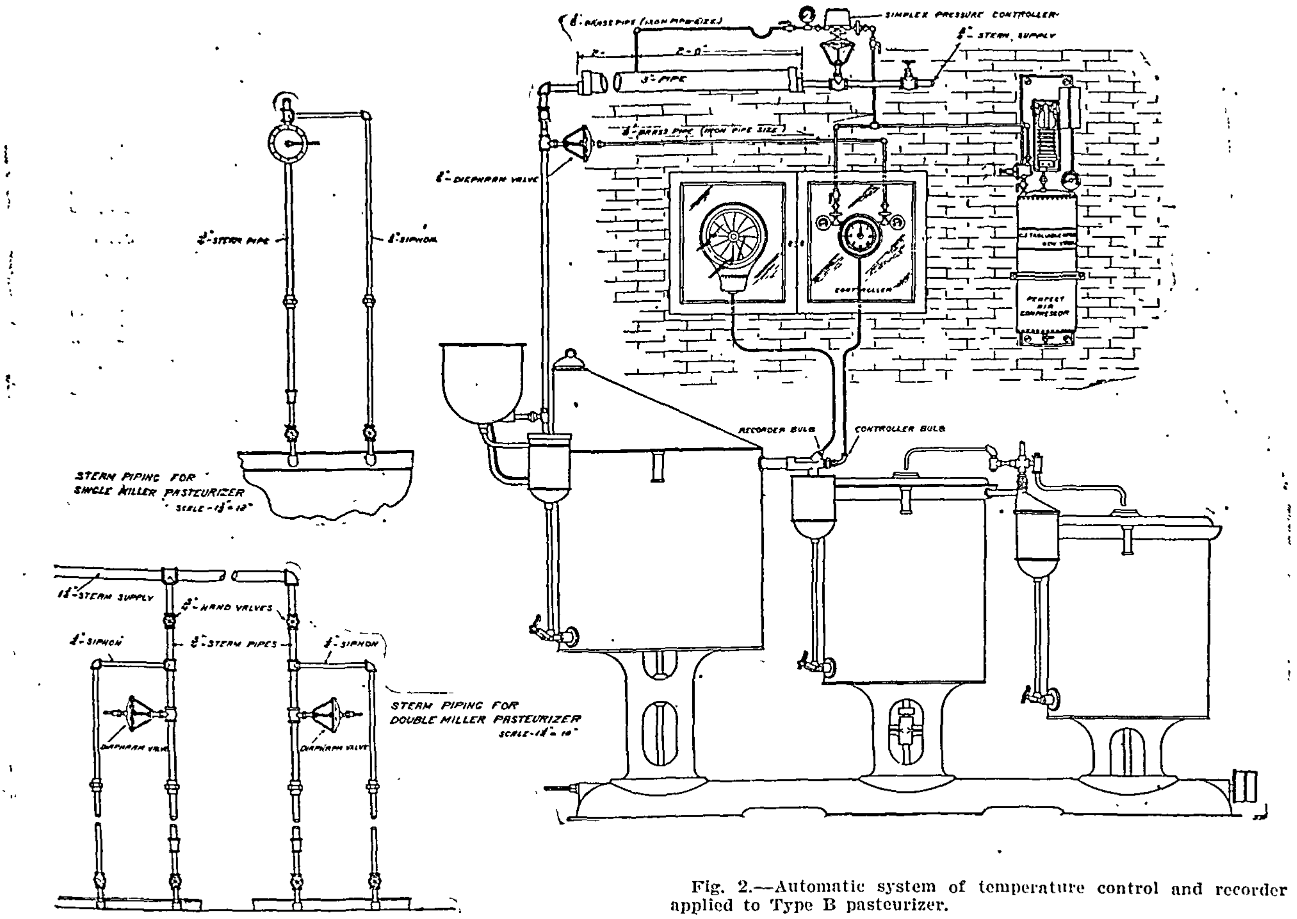

Fig. 2.—Automatic system of temperature control and recorder applied to Type B pasteurizer.

BACTERIAL STANDARDS

Bacterial standards should be threefold: a minimum temperature requirement, a percentage bacterial reduction standard, and a maximum permissible bacterial count.

Temperature standards should be determined by the thermal death-points, so far as we have definite knowledge of them, of the ordinary pathogenic bacteria conveyable in milk. A safe guide in the case of flash pasteurization is the degree of heat and time required to kill the tubercle bacillus, since it is the most difficult of the ordinary pathogenic micro-organisms to destroy, and inasmuch as one cannot hope to destroy spores with pasteurization temperatures. For this type of pasteurization, therefore, we should be guided by the results of Russell and Hastings, who determined that exposure to

During the past six months some seventy pasteurizing establishments have been subjected to bacterial investigation in the city of Chicago. A few representative results of these tests are here included.[1]

A study of the results of these seventy investigations reveals two interesting facts aside from the matter of temperature records. First, the percentage bacterial reduction under practical working conditions, as judged by the samples taken directly from the machine, is in general satisfactory for all five types of pasteurizers examined. Second, there is present in almost all establishments, irrespective of the type of machine used, a very constant and uniform element of recontamination. The significance of such recontamination may be considered from two angles, but depends in the last analysis on the extent to which it occurs. If the recontamination is extensive, it may mean practically the nullification of the work of pasteurization. In fact, instances have been noted in which the product of the plant contained more bacteria than the initial raw milk. On the other hand, if the recontamination is slight it may serve a very useful purpose, that is, it may be the means of introducing a few acid-forming bacteria, and thus improve rather than impair the quality of the product by causing it to sour naturally.[2]

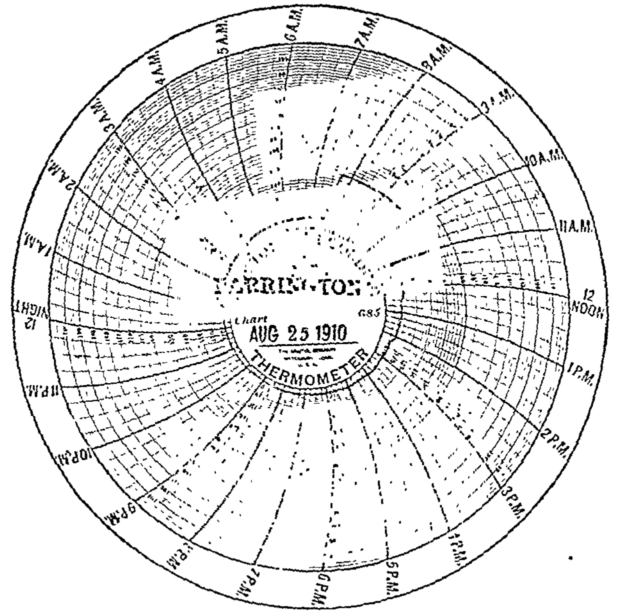

Fig. 3.—Graphic temperature record

If the bacterial count is sufficiently low to indicate a reasonable degree of safety from the standpoint of other bacteria, the reinoculation with acid-producers is of distinct advantage, inasmuch as it refutes the objection commonly raised that pasteurized milk putrefies when it is kept too long.

As a matter of fact, it is probably impossible in the control of pasteurization on a large scale to eliminate entirely the element of recontamination. Particularly

TABLE 1.—BACTERIOLOGIC INVESTIGATIONS OF PASTEURIZING PLANTS IN CHICAGO, JANUARY TO JULY, 1910

PLANT 1.—TYPE A MACHINE—CONTINUOUS *

June—Temp., 160° F.; cooled, 45° F.

Serial No.		Bacterial Count.
1376	Raw	17,000,000
1377	Pasteurized 160° F.	8,700
1378	From cooler 45° F.	55,000
1381	Bottled	120,000

PLANT 6.—TYPE D MACHINE—CONTINUOUS †

August—Temp., 165° F.; cooled, 48° F.

Serial No.		Bacterial Count.
2860	Raw	650,000
2861	Pasteurized from machine 165° F.	4,500
2862	Cooler 48° F.	7,600
2863	Bottle filler	127,000
2864	Bottle uncapped	108,000
2865	Bottle capped	66,000

PLANT 7.—TYPE B MACHINE—CONTINUOUS ‡

April—Temp., 160° F.; cooled, 54° F.

Serial No.		Bacterial Count.
979	Raw	69,000
980	Pasteurized 160° F.	2,000
981	Cooler 54° F.	14,000
982	Bottle uncapped	16,000
983	Bottle capped	14,000

PLANT 11.—TYPE E MACHINE—HELD-TIME, 10 MINUTES §

March—Temp., 150° F.; cooled, 60° F.

Serial No.		Bacterial Count.
570	Raw	50,000
571	Pasteurized 150° F.	4,500
572	Pasteurized, held 10 minutes	2,500
573	Pasteurized bottle filler	3,200
574	Pasteurized	8,500

PLANT 19.—TYPE E MACHINE—HELD 20 MINUTES

March—Temp., 147° F.; cooled, 60° F.

Serial No.		Bacterial Count.
803	Raw	5,000,000
806	Held in can 20 minutes	22,000
807	Cooler	36,000
808	Bottle uncapped	77,600
809	Bottle capped	84,000

PLANT 21.—TYPE F MACHINE—CONTINUOUS ||

March—Temp., 150° F.; cooled, 45° F.

Serial No.		Bacterial Count.
734	Raw	450,000
735	Pasteurized	7,000
737	Cooler	10,000
738	Bottler	10,500
739	Bottle uncapped	8,600
740	Bottle capped	50,000

PLANT 21

May—Temp., 150° F.

Serial No.		Bacterial Count.
1240	Raw	1,900,000
1241	Pasteurized 150° F.	8,000
1242	Cooler	9,000
1243	Bottle uncapped	9,300
1244	Bottle capped	16,000

PLANT 32.—TYPE D MACHINE—CONTINUOUS

May—Temp., 162° F.; cooled, 42° F.

Serial No.		Bacterial Count.
1139	Raw	1,500,000
1140	Pasteurized 162° F.	2,200
1141	Cooler 42° F.	1,500
1142	Bottler	2,000
1143	Can	8,500

PLANT 35.—TYPE B MACHINE—CONTINUOUS

January—Temp., 164° F.; cooled, 50° F.

Serial No.		Bacterial Count.
98	Raw	701,000
99	Pasteurized	2,300
100	From cooler	6,000
101	Bottled and capped	10,000

PLANT 51—TYPE E MACHINE—HELD 20 MINUTES

August—Temp., 143° F.

Serial No.		Bacterial Count.
2999	Raw	21,000,000
3000	Pasteurized 143°	56,000
3001	Held 20 minutes less than	1,000
3003	Bottle filler	18,000
3004	Bottle uncapped	16,800
3005	Bottle capped	17,900

PASTEURIZING MACHINES

* Type A.—A jacketed cylinder. Milk flows in at bottom, upward through center of cylinder and out at top. The jacket is filled with live steam.

† Type D.—Milk flows straight down over a heated cone.

‡ Type B.—A hollow cylinder with metal core. Milk flows in at bottom, upward in a thin stream between the core and jacket, and out at top. Heat is applied from outer jacket.

§ Type E.—Milk flows down in a spiral groove over a heated cone.

|| Type F.—A long trough in which hollow revolving disks are set at right angles to axis of trough. Disks are filled with steam. Milk flows along trough and is retarded by the disks.

Holding device may be attached to any of these types.

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[1] For complete tables, see reprints.

[2] The fact that commercially pasteurized milk sours in the same manner as raw milk may be explained by one of two assumptions: (1) that there has been recontamination with acid-forming bacteria; (2) that a "resistant minority" of lactic acid bacteria has survived the heat of pasteurization. Ayers reports that a small percentage of the lactic acid bacteria may resist a temperature as high as 150 F., and also that one strain of *Streptococcus lacticus* had a thermal death-point of 168 F. (Bull. 126, U. S. Dept. of Agric., Bureau of Animal Industry). We are inclined to believe that the element of recontamination is the more important of the two, judging from the fact that samples taken from the pasteurizing machine proper do not usually develop acidity, while bottled samples taken from the same plants at the same time almost invariably develop about the same acidity as the raw samples.

is this true when there are numerous small dealers to be covered who cannot afford the services of a bacteriologist. Nevertheless, it is obvious that this point should be closely studied and the effort made to reduce the recontamination to a minimum. It is of course a bacteriologic problem, and should be handled by a trained bacteriologist rather than by the ordinary milk inspector who has had little or no laboratory experience. That there is much recontamination still going on in Chicago is to be expected considering the fact that the work of pasteurization is at present in a transitional stage.

The control of conditions at the pasteurizing plant, however, is fairly simple compared to the control of the conditions under which pasteurized milk is marketed. In a large city, this feature of the work is necessarily difficult. It means the additional necessity of securing proper methods of cooling, of preventing the practice of selling kept-over samples, and of educating the entire milk-producing and distributing industry in the proper care of the pasteurized product. It involves the uprooting of old preexisting practices, which have been in vogue for years and are therefore extremely difficult to eradicate.

From a study of the accompanying monthly averages of the bacterial counts of raw milk, pasteurized milk from plants, and pasteurized market samples collected in Chicago, it appears that the general run of the pasteurized market samples is considerably higher than that of the samples from plants, and that in a general way the bacterial counts of market samples follow closely the temperature curve of the weather.

TABLE 2.—MONTHLY AVERAGES OF BACTERIAL COUNTS, JANUARY TO JULY, 1910

	Total Examinations.	Average per c.c.	Per Cent. Below 500,000.
January, 1910.			
Pasteurizing plants	41	40,700	100
Pasteurized market	112	277,800	84
Raw	64	1,067,000	45
February, 1910.			
Pasteurizing plants	41	213,000	88
Pasteurized market	155	938,000	69
Raw	61	1,768,000	46
March, 1910.			
Pasteurizing plants	80	334,000	85
Pasteurized market	154	1,580,000	45
Raw	17	1,664,000	35
April, 1910.			
Pasteurizing plants	36	124,000	94
Pasteurized market	120	694,000	78
Raw	43	5,948,000	70
May, 1910.			
Pasteurizing plants	39	79,700	95
Pasteurized market	76	1,273,000	63
Raw	61	4,892,000	57
June, 1910.			
Pasteurizing plants	28	371,000	75
Pasteurized market	66	1,492,000	53
Raw	44	4,507,000	25
July, 1910.			
Pasteurizing plants	74	185,000	95
Pasteurized market	129	3,106,000	49
Raw	588	12,235,000	19

During the month of January, 1910, the average bacterial count of market samples was 277,800 per cubic centimeter; in February, 938,000 per cubic centimeter. In March, which was an unusually warm month for this time of the year, the average rose to 1,580,000 per cubic centimeter. With the cool weather of April it fell to 594,000, and in the warmer months of May and June reached 1,273,000 and 1,492,000 per cubic centimeter respectively, while in the heat of July the average of market pasteurized samples reached the excessive figure of 3,106,000.

Obviously the control of the marketing of pasteurized milk in Chicago is still unsatisfactory, although it should be noted that the averages of this product are in every instance lower than those of the raw milk for the corresponding period, and that the percentage of samples, which may be considered reasonably safe (under 500,000 per c.c.) is much greater in the pasteurized series than in the raw.

The lesson to be drawn from the above figures is clearly that the temperature at which the product is delivered or sold must be subject to control, as well as the process of pasteurizing, if a safe market product is to be supplied to the consumer. This can probably best be attained by the passage of an ordinance establishing a maximum temperature, say 50 F., at which milk may be transported, sold or held for sale. Until such a measure is obtained in Chicago, it is manifest that there will continue to be undue multiplication of bacteria in the interval between pasteurization and delivery to the consumer, especially during the warmer months of the year. Such an ordinance has been advocated during the past few months—and is now scheduled to come up for passage during the fall of 1910.

A study of the more detailed monthly reports[2] from which the above-mentioned averages are derived is interesting in that it gives a better idea of the general run of the bacterial counts, and brings out more sharply the contrast between the raw and pasteurized series.

TABLE 5.—PASTEURIZED SAMPLES, FRESHLY BOTTLED AND ONE DAY OLD, TAKEN FROM PLANTS

101	Freshly bottled	10,000
102	One day old	1,200,000
124	Freshly bottled	37,000
125	One day old	70,000
174	Freshly bottled	8,000
175	Freshly bottled	3,600
176	One day old	3,500
177	One day old	404,000
212	Freshly bottled	25,000
213	Freshly bottled	45,000
214	One day old	18,000
215	One day old	94,000
297	Freshly bottled	1,380,000
299	One day old	4,800,000
298	One day old	256,000
334	Freshly bottled	92,000
335	Freshly bottled	127,000
336	One day old	182,000
337	One day old	210,000
353	Freshly bottled	21,500
354	Freshly bottled	24,500
355	One day old	800,000
356	One day old	800,000
422	Freshly bottled	12,000
423	Freshly bottled	14,400
420	One day old	36,500
421	One day old	45,000
433	Freshly bottled	116,000
434	Freshly bottled	135,000
435	One day old	315,000
436	One day old	372,000
467	Freshly bottled	43,500
468	Freshly bottled	32,900
469	One day old	760,000
470	One day old	470,000

The detailed February report[3] of pasteurized market samples presents another important lesson which must be applied to the control of the marketing of milk, that is, the fact that many of the high bacterial counts in market milk occur as a result of the common practice prevailing in milk depots and retail stores, of selling left-over milk from the previous day's supply. This factor no doubt accounts for more of the high counts in pasteurized market milk than appears in the tables, inasmuch as it is not always possible for the inspector to obtain accurate information as to the age of bottled samples. Table 5, showing the bacterial counts of freshly bottled samples and samples one day old taken from pasteurizing plants, illustrates the extent to which bacterial multiplication occurs under ordinary practical conditions in the pasteurizing establishment proper.

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[3] For this, see reprints.

To meet this phase of the problem an ordinance has been proposed for passage, which requires that the date of bottling or pasteurizing shall appear on every bottle of milk, both raw and pasteurized, offered for sale in the city of Chicago. This measure, if it successfully passes the city council, will make it possible for the consumer to determine at the time of purchase whether or not a fresh product is being vended.

By way of comparison, in order that the progress already made in the direction of a purer milk-supply, may not be lost sight of, Table 6 is submitted showing the condition of the raw milk during the month of July, 1910. These samples were taken entirely from railroad platforms and represent the condition of the milk as it arrives in the city during the warmer weather. The urgent need of protection of the milk-supply is well emphasized by these results, the average of which reaches the enormous figure of 12,548,000 per cubic centimeter.

RAW MILK TAKEN FROM RAILWAY PLATFORMS, JULY, 1910 [*]

Serial No.	Bacteria per c. c.	Serial No.	Bacteria per c. c.
2187	240,000	2302	150,000
2188	7,850,000	2303	335,000
2189	74,000,000	2304	385,000
2190	6,800,000	2305	810,000
2191	3,350,000	2306	67,000
2192	8,200,000	2350	100,000,000
2193	54,000,000	2351	720,000
2195	8,100,000	2352	100,000,000
2259	11,000,000	2353	685,000
2260	35,000,000	2354	8,800,000
2261	13,400,000	2355	3,350,000
2262	40,000,000	2356	2,400,000
2263	5,200,000	2357	500,000
2264	4,200,000	2358	38,000
2265	100,000,000	2359	3,100,000
2266	145,000	2385	3,300,000
2267	10,000	2386	11,300,000
2268	21,700,000	2387	20,000
2297	1,550,000	2388	295,000
2298	54,000,000	2389	38,000
2300	2,700,000	2390	300,000
2301	300,000	2391	24,400,000

183 Samples; 12,548,000 average bacteria per c.c.

[*] A portion only of this table is given here; for complete table see reprints.

At the present moment, it cannot be justly claimed that pasteurization in Chicago is under satisfactory control. In fact, little more can be done in this paper than to point out a few important lessons, which are to be drawn from the experiences of the last eighteen months. Results as shown by the some 4,000 bacterial examinations made during the present year are not ideal. Nevertheless, it is our belief that there has been a sufficiently great improvement over the raw product formerly sold in the city to justify the effort which has been expended.

Tumors in Cerebello-Pontine Angle.—T. Schwartz reports in the *St. Petersburg. med. Wochenschrift*, January 14, the details of two cases in which the syndrome was apparently identical and typical of a circumscribed tumor in the cerebellopontine angle. One patient died before the contemplated operation; the tumor in the other case was successfully removed at two sittings. Borchardt, who performed the operation, has compiled twenty-eight cases from the literature of the last two years with 50 per cent. recoveries. Schwartz states that his experience confirms the necessity for refraining from lumbar puncture in a case of a suspected brain tumor; in his first case although only 10 c.c. of fluid were released, intolerable headache followed and death occurred forty hours later, while removal of the tumor was being considered. In the two cases reported the Wassermann reaction was positive in the blood but not in the cerebrospinal fluid; necropsy revealed nothing suspicious of syphilis in the fatal case. The severe headache had improved and also the pulse under mercury and iodid in this case, evidently from the influence of the medication on the complicating hydrocephalus revealed by necropsy.

INJURIES OF ABDOMINAL VISCERA WITHOUT EXTERNAL SIGNS OF VIOLENCE [*]

HENRY H. SHERK, M.D.
PASADENA, CAL.

Subcutaneous or non-penetrating injuries of the abdominal viscera are of such frequent occurrence, and their early diagnosis so important, that it is somewhat surprising that they are not recognized earlier in the majority of cases than is the rule at present. A study of the early symptomatology of these visceral lesions is therefore desirable.

I shall consider only those injuries resulting from *external violence of such character as does not produce* any surface trauma of the abdomen, or at least leaves only slight evidence of external injury. I shall also further limit my subject by excluding injuries of the urinary tract.

Penetrating wounds of the abdomen naturally point to and make easy, comparatively speaking, the diagnosis of associated visceral lesions. When the internal injury is not accompanied by external abdominal trauma the diagnosis is usually difficult. Damage to other parts of the body often diverts the attention of the physician and the patient and the less apparent early abdominal symptoms are overlooked. Unfortunately, there are no signs that are pathognomonic of visceral trauma. In some instances symptoms appear early, while in others manifestations of the injury are delayed for hours or even days.

Many cases have been reported in which, after having suffered gross injury to some of the abdominal viscera, the patient has worked on for hours at hard manual labor before succumbing. In other cases the severity of the symptoms is often out of proportion to the existing lesions. Intense shock, pain and excessive vomiting may accompany an injury of no moment. The following case illustrates this:

CASE 1.—A. H., aged 45, male, at 4 p. m., four hours after last meal, while prying up the root of a tree with a pick, wrenched himself when the root pulled loose. He did not fall and was not struck on the abdomen. Pain in the splenic region followed immediately. It was sharp and lancinating in character, increased rapidly and was accompanied by nausea and faintness. I saw him twenty minutes after the accident, sitting on the edge of his bed, bending over with his hands pressed against his stomach. His skin was pale, cold and clammy with perspiration; pulse was rapid but fairly strong; respiration short and shallow; temperature 97.6 F. He complained of intense pain in the left hypochondriac region. There was some tenderness in the same region, and marked rigidity of all the abdominal muscles, especially in the left upper quadrant. Peristalsis was quite active and he had vomited once. Leukocyte count was 6,950. All symptoms gradually subsided, rigidity disappearing first. By the next day he was feeling all right except for a little localized soreness.

Cases have been reported in which mistaken diagnoses, based on alarming symptoms, have led to unnecessary operations. Again, the resultant injury often bears no relation to the degree of violence that produced it. Severe visceral lesions may follow slight accidents, and *vice versa*. For these reasons any symptoms, no matter how slight, referable to the abdomen, should be given due weight in any case in which the patient has been subjected to external violence. In no other class of cases is an early diagnosis so necessary. In most instances it is life-saving. A delayed diagnosis nearly always means a fatal termination.

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[*] Read in the Section on Surgery of the American Medical Association, at the Sixty-First Annual Session, at St. Louis, June, 1910.

[*] For lack of space, an extensive table of cases is omitted from THE JOURNAL. It appears in the Transactions of the Section and in the author's reprints.

In discussing the subject I wish to consider the different elements wholly from the standpoint of their relation to the question of diagnosis, and shall take up:

1. The nature of the violence as a causative factor in the production of the injury.
2. The character and extent of the injury.
3. The symptomatology and diagnosis.
4. Deductions from a synopsis of cases collected from the literature.

As to the nature of the violence: Deaver's classification of the forces which cause injuries to the abdominal viscera as compressive, percussive and concussive, is sufficient. Each variety of violence tends toward certain forms of trauma. Therefore it is most important to ascertain, as definitely as possible, the exact details of the accident. How did the accident occur? Was the injured one's part in the accident active or passive? Was he struck by a rapidly or slowly moving, a large or a small, a hard or a soft object? Was the force great or slight? Was he crushed or run over? Did he fall from a greater or less height, or was he thrown some distance? What part of the body received the impact or the brunt of the violence?

Compressive or crushing violence, according to the way in which it is expended, may bruise, tear or rupture both the hollow and the solid viscera. When the violence is in the nature of a crushing force, a steady direct compression, the solid viscera can be crushed or torn, and the hollow ones can be torn, bruised or have their blood-supply damaged.

Compression applied over the abdomen in a progressive manner, as when the body is rolled in a narrow space between two objects, or run over by a heavy-tired automobile, may burst a loop of intestine. The solid or hollow organs may be torn loose from their supports in the same way. These injuries are possible also when the compression is produced by the forcible doubling up of the body, as in railroad accidents or when the subject, caught in a stooping or sitting position, is crushed by a heavy weight falling on his head or shoulders.

Extreme or violent muscular action can, under certain conditions, produce visceral injury.

By percussive violence we mean that received from the impact of a rapidly moving object. Horse kicks, a blow from a piece of wood thrown from a circular saw, or flying objects in an explosion, are examples of percussive violence. This form of violence may rupture the solid viscera and likewise the hollow organs, if they are distended at the time of the injury.

Both compressive and percussive force produce visceral trauma by direct violence.

When the impact of the violence is received on any part of the body other than the abdomen, visceral injury may result from concussion, or as one might say, by *contre-coup,* the force being indirect or transmitted. In this way the solid organs and the hollow viscera, when heavily loaded, can be torn loose at their point of attachment, the tears often extending into the substance of the organ. The following case illustrates the results of concussive violence:

Case 2.—R. T., aged 28, male, at 11 p. m. was thrown from a rapidly moving automobile, was struck on his shoulder but not run over; was able to crawl to the street curb and vomited before he reached it; was brought home in a state of collapse and was unconscious for two hours. He was ashy pale and vomited persistently. He complained of great pain in the upper abdomen and gave all the evidences of shock. There were bruises on the head, right shoulder and on the back near the right hip, none on the abdomen.

I was called in consultation the fourth day, two hours before death. The man was almost moribund and gave all evidences of profound general peritonitis. He had facies abdominalis to a decided degree. The abdomen was distended to its fullest extent and was tender all over. There was an entire absence of peristalsis. The liver dulness was obliterated and there was some dulness in both flanks, but the patient's condition did not allow me to determine if it was movable or not. The pulse was rapid and thready, about 140, temperature over 102 F.; respirations were shallow. The patient complained of great general pain and had vomited recently, what the doctor called stercoraceous matter. I was allowed only a partial postmortem examination. No bruises or ecchymoses on the abdomen. The abdominal cavity was full of fluid blood and clots and there had been general peritonitis. There was a tear, about an inch and a half long, in the liver along the falciform ligament. I could find no other lesion.

Sometimes the mere forcible jolting or jarring of the solid viscera causes rupture of their substance. This is more likely to occur if the organ is enlarged or softened by any morbid state. Wind concussion from explosions is another possible source of visceral injury.

Certain circumstances tend to lessen the liability to intra-abdominal injuries from external violence. The amount of clothing will sometimes soften the force of the blow, and at least prevent the occurrence of any surface traumatism. A fat abdominal wall will lessen the liability to injury from percussive force, while it might increase the danger if the force was either compressive or concussive.

Case 3.—R. B., aged 62, male, weight about 200 pounds, railroad superintendent, at 6 p. m., six hours after eating, accidentally fell or slid from the seat of a farm wagon. He dropped forward on the flank of the near horse, striking on the left lower ribs and upper abdomen. He fell only about three feet and struck against the rounded soft rump of the horse, and then slid off to the ground, landing on his knees. He was helped up and carried to the nearest house, a few rods away. He complained of intense pain in the region of the stomach. The doctor who saw him thirty minutes later found three lower left ribs fractured posteriorly and gave morphin to relieve pain in the upper abdomen. There were no marks of violence on the surface of the abdomen.

I first saw the man at 4:30 p. m. the following day, twenty-two and one-half hours after the accident. He was then lying on his back, slightly propped up in bed, with his knees drawn up. The expression on his face was anxious and indicative of suffering. The respirations were shallow and rapid; the pulse could scarcely be counted; temperature was subnormal. He was still vomiting and the abdomen was much distended and rigid. There was total absence of peristalsis. Great irritability of the bladder and constant desire to urinate were present. The patient's mind was slightly clouded, but he would rouse up enough to answer questions. There was great restlessness, with constant moving of the hands and arms. I made a diagnosis of rupture of the spleen and advised an immediate operation. Sudden collapse occurred soon after and the patient died before anything could be done, twenty-four hours after the accident. I was allowed to make a post-mortem examination of the abdomen only. The abdominal cavity was full of fluid blood and clots. There were two ragged tears near the upper border of the spleen. Death was due to hemorrhage.

I am sure that the weight of the patient and his fat abdominal wall influenced materially the results of what otherwise would have been an accident of no moment.

If the abdominal muscles are contracted and rigid in anticipation of a blow, as in athletic contests, the viscera are less likely to be injured than if the violence is unexpected and the abdominal wall is relaxed and soft.

The likelihood of internal injury being caused by external violence is materially influenced by the condition of the viscera themselves. The presence of morbid conditions in any organ greatly increases its liability to injury. An enlarged viscus, by its increase in size and weight, offers, as one might say, a larger target. A congested or softened spleen, or an inflamed and edematous intestine, is much more easily torn than a normal one. Adhesions resulting from previous inflammations, by abnormally fixing any organ, may increase its liability to injury from violence. One of my own cases is illustrative:

Case 4.—D. R., aged 61, male, dairyman, with history of having been gored in the abdomen by a bull twenty years previously, about 4:30 p. m., four hours after last meal, was stooping over to bandage a horse's leg and received a kick on the shin. As he straightened up he was squeezed between the horse's flank and the side of the stall, the abdomen receiving the brunt of the violence. When helped to his house a few minutes later he complained of great pain in the lower abdomen, over and above the bladder. He was nauseated but did not vomit. He looked ashy pale and the skin was cold and clammy. When first seen, about half an hour after the accident, he was lying still with his legs flexed. He complained of intense pain in the lower abdomen and of feeling chilly. There was marked general rigidity of the abdominal walls and the greatest tenderness was in the left lower quadrant. No dulness could be demonstrated. Peristalsis was absent and there was irritability of the bladder. The patient still gave some evidence of shock, but the pulse was of fair quality and its rate only slightly increased. Respirations were short and shallow. A diagnosis of probable visceral injury was made, and immediate exploratory operation was advised but refused. The patient could not pass urine and was catheterized. The urine was negative and contained no blood. Nausea continued, followed after ten or twelve hours by vomiting. Absence of peristalsis persisted and there were no bowel movements. Abdominal distention commenced in four or five hours. The pain over the bladder steadily increased. By 8 o'clock next morning, about sixteen hours after the accident, the pulse was 115 to 120 and thready, and the temperature was over 100 F. The abdomen was much distended, tender and rigid. Death occurred about fifty-six hours after the accident.

Post-mortem examination, made by Dr. Stanley P. Black, disclosed general peritonitis with extravasated intestinal contents. The intestines were more or less adherent from inflammation following the accident of twenty years previous. On the right side an adherent loop of the small intestine had been torn at the point of adhesion, an opening slightly over 1 inch in length being present.

A stomach distended with food, fluid or solid, or with gas, is more easily bruised or torn than an empty one. Therefore the relation of the time of the last meal and stool to the time of the receipt of the violence is of importance.

The part of the body impinged on, when violence is received, materially influences the nature of the resulting injury.

If the blow is delivered on the lower abdomen, injury to the small intestine, sigmoid or caput coli, may be suspected. Blows on the upper abdomen are not apt to injure the intestine unless received in the middle line and so directed as to crush the intestine against the spine, in which case the omentum and mesentery are also frequently involved. Violence received in either loin offers little danger to the intestines, except possibly the colon or duodenum, on account of their more fixed relations.

Force applied to the upper abdomen in the middle or on either side, as well as when delivered in the lumbar region, may injure the liver, spleen or pancreas.

Violence, of a crushing or gliding nature, delivered on the abdomen, too high for the intestines or too low for the liver or spleen, most frequently injures the mesentery.

A blow over a hernial sac, containing an intestinal loop, is often productive of injury to the intestine.

The character and extent of the injury to the viscera will depend on the nature and degree of the force, its application and the condition of the abdominal contents at the time of the accident.

The injury may be in the nature of a contusion, a crushing of the tissues, a tearing or a rupture of any of the viscera or their supports and attachments. It will also vary according as the organ affected is hollow or solid.

The damage may be direct and immediate to the organ itself, or it may be indirectly caused by injury to the blood-supply of the viscera affected.

The extent of the lesion will vary greatly. It may range from a slight bruising or abrasion of the peritoneal covering of the part affected to an extensive laceration of the substance, or even more or less complete disintegration of the whole of the viscera involved.

The state of the abdominal walls and the condition of the abdominal contents materially influences the degree and extent of the injury.

In considering the nature of these abdominal injuries, it is well to take up the different organs separately, dividing them into two main classes, the solid and the hollow viscera.

The solid viscera may be bruised, crushed or torn. A rupture of a solid organ is practically the same as a tear, except as to the mechanism of its production.

According to most authorities, the liver is the most commonly injured of the solid viscera, except, of course, the kidneys, which I am not considering, but in the accompanying series of cases collected from the literature, injuries of the spleen outnumber those of the liver. The liver may be crushed when the compression force is severe and applied directly over the region of this viscus, but this form of injury is not so common as the tears resulting from indirect violence, in which case the rents occur at or near the attachment of the supporting ligaments. Another form of tear is practically a rupture of the liver tissue resulting from extreme jarring or shaking of the organ. This is more apt to occur if the liver is enlarged or softened.

The spleen is subject to the same traumatisms as the liver, except that rupture of the splenic pulp is, by far, the most common form of injury to this organ. The spleen is so much smaller and lighter than the liver that it is less likely to have tears in its substance resulting from traction on its supports. Its small size, deep-seated position, and its surroundings, also afford greater protection against direct crushing.

The enlarged spleen is much more liable to injury than a normal one. Consequently splenic injuries are more common in tropical or malarial countries. According to Cantlie, most of the tears or ruptures of the spleen occur on its inner surface, especially when the organ is enlarged, owing no doubt to the fact that the outer surface is tougher than the inner one. "A spleen can therefore have its inner surface ruptured by a blow on the abdomen over the splenic area, without any evidence of injury on its outer surface." This is due to concussion.

The normal spleen is most likely to rupture at the height of its functional activity, *i. e.*, some hours after eating.

Traumatism of the pancreas seldom occurs and is usually associated with injury of other organs.

The omentum and various mesenteries can be torn, bruised or crushed, but an injury to them is generally associated with corresponding traumatism to the intestine or other organs.

In women it is always well to remember the possibility of rupture of ovarian cysts or ectopic gestation sacs.

The hollow viscera liable to injury are the stomach, intestines, gall-bladder and ducts, the thoracic duct and the large blood-vessels.

The stomach may be torn in any of its parts, but the most common seat of injury is near the pyloric end. The tears may be small or extend completely across the stomach. When the latter occurs, it is always at the pyloric end (Deaver). The stomach is so well protected by its surroundings that it is seldom injured except when distended with food or gas, and in most instances injury of the stomach is associated with trauma of the liver or other viscera.

The intestines may be torn, crushed or ruptured. The injury may be slight or extensive, single or multiple, and may involve any portion from the pylorus to the rectum. The more fixed parts of the small intestine are most frequently affected, the upper end of the jejunum and lower ileum furnishing about 75 per cent. of all intestinal injuries, the duodenum nearly 5 per cent., the large intestine a little over 3 per cent., while 17 per cent. covers other parts of the small intestine. The extent of the rupture or tear is generally in proportion to the degree of violence.

When the intestine is crushed or torn by traction on its fixed points, the tear may be large. When it bursts from localized hyperdistention of one of its loops, resulting from external compression, the perforation in the inner coat is generally small and round, while the peritoneal coat is torn to a much greater extent, just as is seen in a blow-out of an automobile tire, the inner tube showing only a small opening while the outer casing is ripped open for several inches.

Tears and contusions of the intestine generally occur near its mesenteric attachment, while ruptures are usually found opposite the mesentery. When a loop of intestine, contained in a hernial sac, is injured, the lesion is apt to be single and in many instances the damaged intestine, as soon as it is relieved of its distention by leakage of gas and fecal contents, drops back into the abdominal cavity, leaving the hernial sac soiled with the extravasated matter.

Rupture of the gall-bladder or of the bile ducts is rare, occurring most frequently in the presence of stones or some prior pathologic condition of these viscera, and is almost always associated with trauma of the liver. According to Deaver the cystic duct is the part most commonly affected.

As it is an accepted fact that an early diagnosis is absolutely necessary if anything is to be done in these cases, the symptoms of the first few hours are the important ones. The later manifestations, coming on when the patient is beyond relief, are so easily appreciated that a discussion of them is not needed. I shall therefore confine myself, as much as possible, to the consideration of these earlier signs.

The fact that the symptoms vary so much and that none is constant, makes an early diagnosis, in most cases, a matter of extreme difficulty. In many instances it is practically impossible. For these reasons a diagnosis of suspicion or presumption should be adhered to until the element of internal injury can be positively eliminated.

Unfortunately, the severity of the early symptoms does not always correspond to the degree of injury. An extensive trauma may be followed by only slight primary manifestations. On the other hand, injuries of much less degree are often associated with a display of most alarming symptoms.

The train of symptoms is really governed more by the nature than by the degree of the trauma. In injuries of the solid viscera shock and signs of hemorrhage predominate, while a tear of the intestine or stomach is followed, more or less quickly, by the evidences of peritonitis. Where the intestine is simply bruised, without any perforation of its coats, or its mesentery injured the peritonitis may not develop until a necrosis permits leakage of its contents.

Pain is probably the most important symptom; not that it is the most constant or dependable one, but because it is generally the first and because it is the symptom that appeals most to the patient and influences him to apply to a physician for help. Unfortunately, it is often very slight and does not last long. It may be immediate or not appear for hours. Its relation to the degree of trauma is not a constant one, often being present in inverse ratio to the amount of injury. The character and severity of this symptom varies greatly. It may be slight or intense and agonizing. It is not like the pain of the ordinary functional or inflammatory abdominal troubles, but is like the pain that accompanies ruptured extra-uterine pregnancy, sharp and lancinating, as if something had given away or torn loose. It is often described by the patient as deep-seated and radiating. It is the pain of torn peritoneum and not that of inflammation, which appears later. The degree of the initial pain is often much influenced by the amount of shock present. In extreme shock the patient often makes but little complaint of pain, but as reaction sets in and the shock lessens, appreciation of his suffering becomes more evident.

The initial pain is generally localized, either at the site of the injury or at some point more or less distant, even beyond the region of the abdomen. The secondary or inflammatory pain follows the course of the extravasated blood or visceral contents, and as a rule is more generalized. Therefore this initial pain is important only as it calls our attention to the fact that an injury has occurred and that it may, by its location, indicate the probable site of the injury.

Next to pain, shock, varying in degree, is the most common accompaniment of intra-abdominal injuries. Like pain, it does not bear a constant relation to the gravity of the injury, but generally speaking the greater the injury the more profound the shock. The mere presence or the amount of initial shock, *per se*, is of no real diagnostic value and if profound often obscures rather than helps to make a diagnosis. Contrary to this, its progress or course is of the utmost import from a diagnostic and prognostic standpoint.

Rupture of hollow viscera is likely to be associated with early and deep shock, from which the patient rallies, except in the few instances in which the nature and extent of the injury is sufficient to cause death quickly. On the other hand, lacerations of the solid organs, in which hemorrhage is the cause of the symptoms, produce shock, which though slight at first steadily increases as the hemorrhage continues.

Progressively deepening and secondary shock are most serious manifestations.

Nausea and vomiting are often early symptoms, but as a rule do not appear until a short time after the occurrence of the accident. Early vomiting is not of much importance, but persistent or late vomiting is usually indicative of serious injury. The quality of the vomitus will sometimes aid in diagnosis. The presence of blood in it will indicate trauma of the stomach or duodenum, but its absence will not exclude injury of these viscera. In large tears of the stomach vomiting is likely to be absent, or if present may or may not contain any blood.

Tenderness, either local or general, is commonly found. If early it is usually quite marked over the seat of the visceral injury. Later on when peritonitis intervenes, after rupture of the stomach or intestines or following marked hemorrhage, the tenderness, together with the pain, becomes general or may appear at a point quite distant from the site of the injury.

Another symptom closely associated with tenderness is rigidity. This may vary from a slight local stiffness or tenseness of the muscles to a board-like rigidity of the whole abdominal wall. This condition, in degree, bears a more definite relation to the amount or seriousness of the internal injury than any other manifestation. As a rule it occurs early and from that standpoint, although it may last only a short time, is of the utmost importance in helping to a timely diagnosis. When localized it bears a general relation to the site of the injury and often, in the absence of other leading symptoms, indicates the part of the abdomen to approach in operative procedure. Where there is general rigidity close observation may distinguish a greater resistance in some one part than in others. A board-like rigidity of the whole abdominal wall, when associated with shock, vomiting and pain, following any form of external violence, is always to be taken as presumptive testimony of serious injury. According to Deaver the so-called "checkerboard" abdomen is almost pathognomonic of grave intra-abdominal lesions.

Some rigidity may be present with bruising of the abdominal walls, but it does not progressively increase. Usually it is not apparent under light palpation, appearing only when pressure is made on the bruised and tender muscle.

Distention is generally a late accompaniment of trauma of the abdominal viscera. When it appears early, to any extent, it usually means gross injury with extensive extravasation of intestinal contents, both fluid and gas. The distention that appears later and comes on gradually is the result of intestinal paralysis, the earliest sign of which is lessening or cessation of peristalsis. This diminished or absent peristalsis is, to my mind, one of the most important signs that we have, though in the cases reported and in the articles written on this subject it is rarely mentioned, but one or two writers laying any stress on it. I think I place more dependence on it than on any other symptom, not only in the class of cases under consideration, but in the matter of diagnosis of all acute inflammatory and accidental troubles of the abdominal cavity, whether of internal or external origin. I think auscultation is as important as an aid to diagnosis in abdominal diseases as it is in those of the chest, and yet I know of no other means of examination that is so universally neglected. O. C. Gaub of Pittsburg has shown experimentally that peristalsis is obliterated very quickly, after a blow on the abdomen, to return inside of a few hours if the resultant injury is not serious. He reports some cases, in which operation was performed in the presence of peristalsis, other symptoms indicating visceral trauma, in which no injury could be found. Claybrook also emphasizes the importance of this symptom.

Early aperistalsis may only indicate that the abdomen has received some shock or violence, and does not necessarily show that an injury has been done, but if three or four hours after the violence, when reaction has taken place, there is still silence on auscultation and this condition persists, it is almost conclusive proof that the injury is of some moment. When aperistalsis recurs, or when it commences some hours after the receipt of the injury, it is always indicative of serious trouble. It appears more promptly and is more complete and persistent with perforations of the intestines than when associated with other visceral lesions.

Dulness on percussion is not a very dependable sign. If a movable area of dulness can be positively demonstrated, it is good proof that a quantity of fluid, blood or intestinal contents, is free in the peritoneal cavity. But a moderate amount of gaseous distention will obscure it and fresh adhesions will prevent the movement of the fluid when the body position is changed. The absence of liver dulness, asserted by some to be almost pathognomonic of intestinal perforation, is certainly deceptive.

The expression of the patient's face is of prime importance; the so-called facies abdominalis is a frequent accompaniment of serious visceral lesion. It is not a part of the symptom-complex of shock and, as a rule, does not appear until reaction sets in. It is rarely absent, but it may be present to only a slight degree. It is practically always absent when the injury is trivial. The expression is one of distress and anxiety, as if the patient were conscious of impending danger.

Early restlessness is common, especially when the amount of shock is slight. On the other hand, the patient lies quietly if there is profound shock, or, when, later, the peritoneum is inflamed. A reclining posture is generally assumed, the patient lying on his side with the thighs flexed, or he may sit up, leaning forward, with the knees drawn up toward his chin.

Thirst is quite common, especially when there has been much hemorrhage. In a few cases bowel movements occur early, but when the injury is of any extent, especially when the intestine is involved, the paralysis of the intestine precludes all possibility in that direction. A movement containing blood, if it does occur, may be of some value, according to the nature of the blood, in determining the location of the intestinal injury.

Irritability of the bladder is a common and moderately early symptom, commencing as soon as the pelvic peritoneum is irritated by the presence of a quantity of blood or infected by escaped bowel contents. It is in reality one of the earlier manifestations of a commencing general peritonitis, septic or otherwise. The urine in most instances will be negative unless the bladder or kidneys are involved, therefore its examination is useful only in eliminating the question of injury to these organs.

The temperature and pulse are those of shock, internal hemorrhage or peritonitis. The initial temperature is apt to be subnormal, rising as reaction sets in and going above normal with the development of peritonitis. An early, rapid and marked rise of temperature following abdominal injury is suspicious of intestinal rupture and leakage. A secondary fall of the temperature, to below normal, is indicative of serious trouble (Le Conte).

The pulse is variable, rapid, weak and thin if there is much early hemorrhage associated with shock. A pulse, of good quality at first, steadily losing in strength and quality, indicates progressive hemorrhage. According to Le Conte, a steadily rising pulse, after reaction has taken place, is a bad sign, but it must be associated with other symptoms to be alarming.

Dirt marks and tears of the clothing are of value, as are also superficial bruises, in determining the nature of the violence and its point of impingement, and should always be investigated, for, in the absence of a definite history of the accident, either may be the decisive factor.

While an accurate or differential diagnosis is not essential, still it is desirable, to say the least. What is essential, however, is the ability to recognize that certain combinations of symptoms are presumptive of pathologic conditions which, if left to themselves, will jeopardize the life of the patient. It is not necessary to say that the intestine is torn or the spleen ruptured to be justified in advising operative treatment. To know, however, that some viscera has or has not been injured enough to necessitate operation is what is demanded.

A careful study of the initial symptoms, the character of the violence, and the part of the body receiving the force, should indicate the region of the abdomen containing the injured viscera.

A differential diagnosis, other than a presumptive one, is an extremely difficult matter, but certain symptoms when present are of differential value.

As stated before, an early appearance of signs of peritonitis is indicative of injury to a hollow viscus, while symptoms of hemorrhage point to trauma of one of the solid organs. In the latter case peritonitis is generally a late manifestation.

In rupture of the pyloric end of the stomach or of the duodenum the initial pain will be epigastric, but a little later is apt to be referred to the right side in the region of the appendix, as has been pointed out by Moynihan, in duodenal perforation from ulceration.

When the tear is near the cardiac end the pain will be more on the left side, gradually becoming lower as the extravasated stomach contents gravitate along the descending colon. If the tear is in the posterior wall the leakage is into the lesser peritoneal cavity, the resulting peritonitis is limited, and the accompanying pain is also more or less localized. The local pain of a ruptured stomach is often described as gnawing or burning in character.

In ruptures of the intestines the primary pain is usually local, but quickly becomes general. The lower in the intestinal tract the perforation occurs the more intense will be the peritonitis.

An empty condition of the stomach and intestines defers the appearance of peritonitis. When necrosis of the intestine follows injury to its mesentery, the sudden onset of symptoms, accompanying perforation, frequently occurs just after the ingestion of food.

The obliteration of peristalsis is one of the most important signs of perforation of the intestines or stomach. It is a most constant symptom and rarely absent.

The primary symptoms of injury of the mesentery are those of hemorrhage.

The pain of liver injuries is more or less influenced by anything which involves movement of the diaphragm, especially when it is sudden or excessive. It is intensified by hiccoughs and vomiting. Inspiration increases it and accordingly respiration is embarrassed. The pain is often referred to the right shoulder.

In injuries of the spleen precordial pain is often present and sometimes the pain is referred to the left shoulder. Air hunger and shortness of breath are prominent. Ballance's sign, dulness movable on the right side but not on the left, due to the formation of clots near the spleen, may be present when the splenic hemorrhage is slow.

When the pancreas is ruptured, torn or crushed, the hemorrhage or fluid accumulating in the lesser peritoneal cavity may create a cyst-like tumor. The pancreatic secretion induces peritonitis very quickly. The early presence of sugar in the urine is suggestive of pancreatic involvement.

The symptoms of rupture of the diaphragm are those of diaphragmatic hernia, but as the former is ordinarily associated with trauma of other viscera, its manifestations are obscured and it is practically never recognized before operation or autopsy. However, the signs of pneumothorax following an abdominal injury, when the usual causes of air in the pleural cavity can be excluded, point to a possible tear in the diaphragm. Hiccough also suggests injury to the diaphragm.

Rupture of aneurysm of the abdominal aorta or of any of the blood-vessels produces symptoms practically similar to those of rupture of the stomach, but in most instances death follows quickly. If the rupture of the vessel is not complete and a traumatic aneurysm is produced, the symptoms, although intense at first, do not progress as when the stomach or intestine is torn. The signs of peritonitis are lacking.

I have collected reports of some 350 cases of subcutaneous injuries of the abdominal viscera. Of these only 290 were available, as the rest were so lacking in details as to be of no use whatever. I have used those cases only in which actual visceral injury was either verified or disproved by operation or post-mortem examination. Of those tabulated* only a small proportion contained sufficient accurate data on which to base any deductions. Most of them were inaccurate and indefinite. Fully 20 to 25 per cent. did not mention or were indefinite as to the time of operation after the accident. About 2 per cent. left one in doubt as to whether the patient lived or died.

In the following figures I have added, to the 290 tabulated cases, three of my own reported in this paper. The causes of injury were as follows:

Explosion, 1; strain, 4; blows, 86; kicks, 51; run over, 38; falls, 53; thrown, 15; crushed, 42; not stated, 3.

The intestine was affected 181 times; liver, 22; spleen, 45; pancreas, 25; omentum or mesentery, 14; diaphragm, 5; ovarian cyst, 1.

Pre-operative or antemortem diagnosis was stated as made in 101 out of the 293 cases. Of these 101 diagnoses 28 were general, 17 were probable. 38 were accurate and 18 were wrong.

Of the 18 incorrect diagnoses, most were wrong as to the nature or location of the injury and not as to the fact.

In 9 cases the reporters frankly stated that no diagnosis was made, while in 183 cases the matter of diagnosis was not even mentioned. It is to be presumed that a diagnosis was not made in these cases.

In percentages, no diagnosis, 65.5 per cent.; wrong, 6.1 per cent.; probable or general, 15.4 per cent., and accurate or correct, 13 per cent.

One hundred and thirty-two patients died, 155 recovered, and the results were not stated in 6. They were divided as follows:

TABLE 1.—OUTCOME OF CASES

	Intestine.	Liver.	Spleen.	Pancreas.	Omentum and Mesentery.	Diaphragm.	Ovarian Cyst.
Died	94	11	10	10	2	5	0
Recovered ...	82	11	34	15	12	0	1
Not mentioned	5	0	1	0	0	0	0

Of the 293 patients 257 were operated on and 36 were not operated on.

Of the 36 patients not operated on all died.

Of the 257 operated on 96 died, 155 recovered and the results in 6 were not stated.

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* As stated in the introductory footnote, the table is here omitted.

would number, in the aggregate, at least 50,000, with so small a mortality that it would be a negligible factor. And yet there is a certain risk which should be avoided in advising operation on inadequate study. When a surgeon advises a young girl to have the appendix taken out, and bases that advice on her saying that she has appendicitis, and on a physical examination which consists in leaning across his office table and pressing with his fingers on the right iliac fossa, through the clothing, corsets and all—I call that the extreme of absurd opinion and unjustifiable advice.

In abdominal trauma, whatever the cause, we must not wait until there is muscular rigidity, vomiting and distention. We all know that when these symptoms are present operations succeed only by a miracle. In chronic abdominal disease the benefit of the doubt means conservatism. Study the case with care and deliberation. What you lose in time you gain in prognosis. In acute abdominal emergencies, especially the traumatic, the benefit of the doubt means radicalism. Make the diagnosis with speed and operate immediately. What you gain in time you gain in prognosis. I could give my personal experiences, which have forced me, rather against my natural tendencies, to become extremely radical in the presence of sudden and severe abdominal symptoms, whether traumatic or not. If the surgeon ever needs to be prompt in the application of operative measures for the relief of acute abdominal symptoms, he must be prompt when those symptoms follow violence to the abdominal wall.

THE SECRET COMMISSION EVIL*

J. P. LORD, M.D.
OMAHA

There seems to me to be a greater need to discuss one of the ethical questions agitating the surgical world to-day, than to add another scientific paper. It has seemed to me that specialism, with all the advantages and benefits which it has brought to mankind, enabling specialists to render such distinct service to humanity, and thereby enhancing public confidence and esteem, has not been an unmixed blessing to the professional body. The new conditions, changed relations, variable rewards, and readjustments in the relationships of patient, family physician and specialist, together with new economic conditions, as developed by our numerous public and private hospitals, dispensaries, laboratories, corporation work, indemnity insurance, lodge and society practice, have brought problems for solution by the profession in general, and our specialty in particular. The commercial spirit, with which the present age is now credited, has added another factor, the control of which we, with our somewhat neglected code of ethics, have not kept. The rapid development of specialism, with its special rewards and the keen rivalry incident thereto, has developed a new order of things professional, the ethical adjustments of which have not yet been generally made.

There has been so much said on this subject that it would seem almost puerile to attempt to say more. Indeed, it is not my purpose to try to improve on what has already been so well and so fully presented. Realizing as I do that it is probably true that the practice of fee division, secret division, joint fees, commissions, so-called dichotomy, graft, and possibly obtaining money under false pretenses, is increasing, especially among the younger element, I undertake to arouse our members from their seeming lethargy. We teachers and hospital surgeons, as a rule, are established in our respective communities, and have not felt the force of this evil to so great a degree as to compel action. Those who follow will feel it keenly. Many young men are wrestling with this moral problem and will yield to the general trend of practice unless some aroused moral force within the profession, or the effect of publicity, checkmates this menace to professional honor, dignity and common honesty. I agree with those who favor publicity as the speediest and most effective remedy. Then, too, we need some Roosevelts to keep up a rapid-fire attack on this practice.

We should maintain a sentiment against any countenance of graft. Its devotees should not be given positions of honor. They should learn the penalty for unfair and unmanly competition. The present standards of membership of this society should prevail, and we would do well to revise our membership lists, since we have a considerable number who do business on a commercial basis. Our body is not in a position to reform the other fellows when we, too, are culpable. Scarcely a man among us is in a position to cast the first stone, but there are many who have recoiled from this thing on the discovery that this temptress had assailed their manhood and their integrity, and that they had actually violated their patients' confidences.

In writing on this subject several years ago I made the statement that the division of fees was not itself so bad as that to which it leads. The road is short and direct to the practice of graft. This may be a seemingly harsh term to apply to some of the more respectable forms of secret fee division. Secrecy, however, makes it dishonest and renders possible all forms of abuse. The results of the practice are so manifestly demoralizing as to cause all those who love their profession and cherish its sacred traditions, and who seek to uphold its honor and good name, to array themselves in opposition to those who seem concerned only for the monetary rewards of to-day.

It has been observed that those practitioners who work on a commercial basis are too prone to lose sight of the patient in their efforts better to serve their immediate selfish ends. Their lack of thorough conscientiousness leads them into questionable methods. They handle cases as merchandise instead of treating them as patients. This causes them to hold on too long before advising operation, and then to recommend operation on a moribund patient. Their zeal to have people operated on who are willing, causes them to work up cases, and this working-up process sometimes is so considerable that they claim compensation for it. The service is often times considered by them of monetary value equal to or greater than the skilled and experienced services rendered by the surgeon, who has possibly made or caused to be made various laboratory tests, and exhausted every resource to complete a diagnosis, and who has done the operating and given the after-care.

The specialists with their hospital connections and the valuable facilities for advanced and successful work, and the resulting wealthy and large clientele, cause the envious to consider that these men have the best of it, and they are willing to adopt grafting as their most ready means to easy money.

The practitioners who have for years adhered to an inelastic fee-bill find themselves with their financial wings clipped, and unable to rise above the level of customary fees. The specialist is somewhat of a law to himself and most often gets what he asks. These practitioners, therefore, avail themselves of the specialist's facile faculty of fee-getting, by requesting t[illegible]t

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TABLE 2.—LENGTH OF TIME WHICH ELAPSED BETWEEN RECEIPT OF INJURY AND OPERATION

Operation following injury.	Total Cases.	Died.	Recovered.	Result Not Stated.
Within the first 6 hours	64	15	48	1
In the second 6 hours	36	12	24	..
In the third 6 hours	29	14	13	2
Over 13 hours	78	35	42	1
Indefinitely stated but presumably early	13	7	6	..
Time not stated	37	13	22	2

In injuries of the intestines the mortality of the patients operated on in the first six hours was 20 per cent.; the second six hours, 35 per cent.; third six hours, 56 per cent., and over eighteen hours, 66 per cent. Of the liver, first six hours, 71.5 per cent.; second six hours, 50 per cent.; over eighteen hours, the mortality was *nil*. Of the spleen, first six hours, 8.6 per cent.; second six hours, 40 per cent.; over eighteen hours, only 16.6 per cent. Early and late operations for injuries of the pancreas resulted in 29 per cent. and 33.3 per cent. mortality, respectively.

No definite conclusions can be reached as to the frequency of the various symptoms, as the majority of the cases were so indefinitely reported.

In the following figures I refer only to the symptoms of the first few hours:

In the reports of 265 cases pain was mentioned 182 times; as decided pain in 147 cases, slight in 29 and absent in 6; it was not mentioned in 83 cases.

Shock was mentioned 94 times; severe in 46, mild in 31 and absent in 17; not mentioned in 171 cases.

Rigidity was mentioned 159 times; marked in 125 cases, slight in 20 and absent in 14 (in about half of the 14 it appeared as a later manifestation); it was not mentioned in 106 cases.

Peristalsis was only mentioned in 5 instances; absent 3 times and present twice; in the two latter cases operation disclosed no trauma.

A study of these statistics will show the following:

The mortality of injuries to the abdominal viscera, from external violence—over 40 per cent.—is much higher than of corresponding lesions resulting from other causes, and is due no doubt to lack of early diagnosis and to operative hesitancy.

The death-rate of early operations averages less than one-third that of late operations.

The more commonly observed symptoms, pain, shock and rigidity, were present early in a large majority of the cases; pain 97 per cent., shock 82 per cent., and rigidity 90 per cent.

Peristalsis, one of the most important signs, was noticed or mentioned in less than 2 per cent.

SUMMARY

Anyone who has been subjected to external violence of such nature as could, either directly or indirectly, produce injury to any of the abdominal viscera, should be given the most careful examination, and be kept under close observation for several days. Any symptom, no matter how slight, referable to the abdomen, must be considered as a sign of possible visceral injury when it follows the receipt of any violence, regardless of the point of impact or the extent of the external force.

The degree of violence bears no relation to the extent or severity of the resulting injury.

A most thorough investigation as to the exact details of the accident is important as an aid in determining the possibility and the nature of any injury.

Blows, kicks, and crushing violence produce most of the intestinal injuries, compressive force is the most common cause of trauma of the liver, and concussion is responsible for most of the splenic ruptures.

The presence or absence of peristalsis is of the utmost importance from a diagnostic or prognostic standpoint. Its early presence indicates that the abdomen or its contents have received some shock or violence. The persistence of recurrence of this sign is conclusive proof of internal or visceral injury. A decided lessening of peristalsis is a danger-signal if it occurs more than three or four hours after the accident. Active peristalsis is always encouraging in the presence of any abdominal injury.

There are no symptoms that are pathognomonic, most of them being common to all injuries, but, in general, progressively increasing shock indicates trauma of the solid organs, while early symptoms of peritonitis follow tears of the stomach or intestine.

Pain as an initial symptom is important only in that it calls attention to the fact that an injury may have occurred and that it may by its location indicate the possible site of the trauma.

Shock possesses no real diagnostic value except as to its progress or course, which is of the utmost importance.

I also wish to emphasize this fact: that an exact diagnosis is not necessary, though it is highly desirable, and that the early recognition of the probability of visceral injury is absolutely essential to lower the death-rate in these cases.

Appreciation of possibilities, or, as Murphy has aptly expressed it, "a keen surgical sense," is what is needed by the doctor who first sees the patient.

268 South Orange Grove Avenue.

ABSTRACT OF DISCUSSION

Dr. Garry D. Hough, New Bedford, Mass.: There is one diagnostic sign in cases of internal injuries of the abdomen which was not referred to by Dr. Sherk. It is not always present—perhaps in only 30, 40 or 50 per cent. of cases. When present, it tells you exactly where the trouble is located. That sign is the hyperalgesic zone, which corresponds to the injured viscus. In 1893, an Englishman first brought out the fact of a hyperalgesic zone corresponding to disease in an abdominal viscus. When this sign is present, so far as cumulative experience can yet tell us, it is an absolutely certain thing, but unfortunately it is present in only about half of the cases.

Dr. Maurice H. Richardson, Boston: A most important point which is emphasized in this paper is abdominal diagnosis. In an abdominal case, the greater the difficulty of diagnosis the greater the interest, and the greater the satisfaction when exploration shows that diagnosis correct. Except in urgent cases, I take any amount of time necessary to come to a positive conclusion. But there is reason in all things. After violent blows on the abdomen, to wait for symptoms enough for a positive diagnosis is to let pass the only opportunity for successful intervention—so, too, in perforations of the alimentary canal, and in duodenal and gastric ulcer. On the other hand, it may save the patient an unnecessary exploration if the surgeon takes days, or even weeks, to make a diagnosis.

In teaching, I stand for extreme care in diagnosis, especially abdominal—for the exhausting of every symptom in the history, and of every sign in the physical examination, and for the education to the greatest nicety of the powers of observation and deduction, before subjecting a patient to even the slight risks of exploration. But when we come to abdominal emergencies we cannot wait. In large communities, where these acute emergencies are common, we cannot and do not wait for a positive diagnosis. We must feel assured that there is a reasonable certainty that some serious lesion demanding surgical remedy is present. The dangers of the exploratory operation are, of course, slight. I could pick out twenty-five men in this audience whose operations for chronic appendicitis

would number, in the aggregate, at least 50,000, with so small a mortality that it would be a negligible factor. And yet there is a certain risk which should be avoided in advising operation on inadequate study. When a surgeon advises a young girl to have the appendix taken out, and bases that advice on her saying that she has appendicitis, and on a physical examination which consists in leaning across his office table and pressing with his fingers on the right iliac fossa, through the clothing, corsets and all—I call that the extreme of absurd opinion and unjustifiable advice.

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The degree of violence bears no relation to the extent or severity of the resulting injury.

A most thorough investigation as to the exact details of the accident is important as an aid in determining the possibility and the nature of any injury.

Blows, kicks, and crushing violence produce most of the intestinal injuries, compressive force is the most common cause of trauma of the liver, and concussion is responsible for most of the splenic ruptures.

The presence or absence of peristalsis is of the utmost importance from a diagnostic or prognostic standpoint. Its early presence indicates that the abdomen or its contents have received some shock or violence. The persistence of recurrence of this sign is conclusive proof of internal or visceral injury. A decided lessening of peristalsis is a danger-signal if it occurs more than three or four hours after the accident. Active peristalsis is always encouraging in the presence of any abdominal injury.

There are no symptoms that are pathognomonic, most of them being common to all injuries, but, in general, progressively increasing shock indicates trauma of the solid organs, while early symptoms of peritonitis follow tears of the stomach or intestine.

Pain as an initial symptom is important only in that it calls attention to the fact that an injury may have occurred and that it may, by its location, indicate the possible site of the trauma.

Shock possesses no real diagnostic value except as to its progress or course, which is of the utmost importance.

I also wish to emphasize this fact: that an exact diagnosis is not necessary, though it is highly desirable, and that the early recognition of the probability of visceral injury is absolutely essential to lower the death-rate in these cases.

Appreciation of possibilities, or, as Murphy has aptly expressed it, "a keen surgical sense," is what is needed by the doctor who first sees the patient.

268 South Orange Grove Avenue.

ABSTRACT OF DISCUSSION

DR. GARRY D. HOUGH, New Bedford, Mass.: There is one diagnostic sign in cases of internal injuries of the abdomen which was not referred to by Dr. Sherk. It is not always present—perhaps in only 30, 40 or 50 per cent. of cases. When present, it tells you exactly where the trouble is located. That sign is the hyperalgesic zone, which corresponds to the injured viscus. In 1893, an Englishman first brought out the fact of a hyperalgesic zone corresponding to disease in an abdominal viscus. When this sign is present, so far as cumulative experience can yet tell us, it is an absolutely certain thing, but unfortunately it is present in only about half of the cases.

DR. MAURICE H. RICHARDSON, Boston: A most important point which is emphasized in this paper is abdominal diagnosis. In an abdominal case, the greater the difficulty of diagnosis the greater the interest, and the greater the satisfaction when exploration shows that diagnosis correct. Except in urgent cases, I take any amount of time necessary to come to a positive conclusion. But there is reason in all things. After violent blows on the abdomen, to wait for symptoms enough for a positive diagnosis is to let pass the only opportunity for successful intervention—so, too, in perforations of the alimentary canal, and in duodenal and gastric ulcer. On the other hand, it may save the patient an unnecessary exploration if the surgeon takes days, or even weeks, to make a diagnosis.

In teaching, I stand for extreme care in diagnosis, especially abdominal—for the exhausting of every symptom in the history, and of every sign in the physical examination, and for the education to the greatest nicety of the powers of observation and deduction, before subjecting a patient to even the slight risks of exploration. But when we come to abdominal emergencies we cannot wait. In large communities, where these acute emergencies are common, we cannot and do not wait for a positive diagnosis. We must feel assured that there is a reasonable certainty that some serious lesion demanding surgical remedy is present. The dangers of the exploratory operation are, of course, slight. I could pick out twenty-five men in this audience whose operations for chronic appendicitis

would number, in the aggregate, at least 50,000, with so small a mortality that it would be a negligible factor. And yet there is a certain risk which should be avoided in advising operation on inadequate study. When a surgeon advises a young girl to have the appendix taken out, and bases that advice on her saying that she has appendicitis, and on a physical examination which consists in leaning across his office table and pressing with his fingers on the right iliac fossa, through the clothing, corsets and all—I call that the extreme of absurd opinion and unjustifiable advice.

In abdominal trauma, whatever the cause, we must not wait until there is muscular rigidity, vomiting and distention. We all know that when these symptoms are present operations succeed only by a miracle. In chronic abdominal disease the benefit of the doubt means conservatism. Study the case with care and deliberation. What you lose in time you gain in prognosis. In acute abdominal emergencies, especially the traumatic, the benefit of the doubt means radicalism. Make the diagnosis with speed and operate immediately. What you gain in time you gain in prognosis. I could give my personal experiences, which have forced me, rather against my natural tendencies, to become extremely radical in the presence of sudden and severe abdominal symptoms, whether traumatic or not. If the surgeon ever needs to be prompt in the application of operative measures for the relief of acute abdominal symptoms, he must be prompt when those symptoms follow violence to the abdominal wall.

THE SECRET COMMISSION EVIL *

J. P. LORD, M.D.
OMAHA

There seems to me to be a greater need to discuss one of the ethical questions agitating the surgical world to-day, than to add another scientific paper. It has seemed to me that specialism, with all the advantages and benefits which it has brought to mankind, enabling specialists to render such distinct service to humanity, and thereby enhancing public confidence and esteem, has not been an unmixed blessing to the professional body. The new conditions, changed relations, variable rewards, and readjustments in the relationships of patient, family physician and specialist, together with new economic conditions, as developed by our numerous public and private hospitals, dispensaries, laboratories, corporation work, indemnity insurance, lodge and society practice, have brought problems for solution by the profession in general, and our specialty in particular. The commercial spirit, with which the present age is now credited, has added another factor, the control of which we, with our somewhat neglected code of ethics, have not kept. The rapid development of specialism, with its special rewards and the keen rivalry incident thereto, has developed a new order of things professional, the ethical adjustments of which have not yet been generally made.

There has been so much said on this subject that it would seem almost puerile to attempt to say more. Indeed, it is not my purpose to try to improve on what has already been so well and so fully presented. Realizing as I do that it is probably true that the practice of fee division, secret division, joint fees, commissions, so-called dichotomy, graft, and possibly obtaining money under false pretenses, is increasing, especially among the younger element, I undertake to arouse our members from their seeming lethargy. We teachers and hospital surgeons, as a rule, are established in our respective communities, and have not felt the force of this evil to so great a degree as to compel action. Those who follow will feel it keenly. Many young men are wrestling with this moral problem and will yield to the general trend of practice unless some aroused moral force within the profession, or the effect of publicity, checkmates this menace to professional honor, dignity and common honesty. I agree with those who favor publicity as the speediest and most effective remedy. Then, too, we need some Roosevelts to keep up a rapid-fire attack on this practice.

We should maintain a sentiment against any countenance of graft. Its devotees should not be given positions of honor. They should learn the penalty for unfair and unmanly competition. The present standards of membership of this society should prevail, and we would do well to revise our membership lists, since we have a considerable number who do business on a commercial basis. Our body is not in a position to reform the other fellows when we, too, are culpable. Scarcely a man among us is in a position to cast the first stone, but there are many who have recoiled from this thing on the discovery that this temptress had assailed their manhood and their integrity, and that they had actually violated their patients' confidences.

In writing on this subject several years ago I made the statement that the division of fees was not itself so bad as that to which it leads. The road is short and direct to the practice of graft. This may be a seemingly harsh term to apply to some of the more respectable forms of secret fee division. Secrecy, however, makes it dishonest and renders possible all forms of abuse. The results of the practice are so manifestly demoralizing as to cause all those who love their profession and cherish its sacred traditions, and who seek to uphold its honor and good name, to array themselves in opposition to those who seem concerned only for the monetary rewards of to-day.

It has been observed that those practitioners who work on a commercial basis are too prone to lose sight of the patient in their efforts better to serve their immediate selfish ends. Their lack of thorough conscientiousness leads them into questionable methods. They handle cases as merchandise instead of treating them as patients. This causes them to hold on too long before advising operation, and then to recommend operation on a moribund patient. Their zeal to have people operated on who are willing, causes them to work up cases, and this working-up process sometimes is so considerable that they claim compensation for it. The service is often times considered by them of monetary value equal to or greater than the skilled and experienced services rendered by the surgeon, who has possibly made or caused to be made various laboratory tests, and exhausted every resource to complete a diagnosis, and who has done the operating and given the after-care.

The specialists with their hospital connections and the valuable facilities for advanced and successful work, and the resulting wealthy and large clientele, cause the envious to consider that these men have the best of it, and they are willing to adopt grafting as their most ready means to easy money.

The practitioners who have for years adhered to an inelastic fee-bill find themselves with their financial wings clipped, and unable to rise above the level of customary fees. The specialist is somewhat of a law to himself and most often gets what he asks. These practitioners, therefore, avail themselves of the specialist's facile faculty of fee-getting, by requesting the specialist

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* Read before the Western Surgical Association, Chicago, December, 1910.

to add a sum for them, as the people would object to paying them a proper amount.

The specialists have often been accommodating in this way, and have saved themselves and the family physician the trouble of explaining the matter to the patient. The country doctor often plays "goody-goody," and says that he will not make a charge for accompanying the case if expenses are paid, of course depending on receiving a part of the specialist's fee. The specialist's fee is, therefore, under such circumstances, unnecessarily large. This gives the patient and all his friends an exaggerated idea of the value of the surgeon's services, and the relatively greater importance of the work of the specialist. The poor country doctor's services, therefore, become diminutive, judged by the cheapness of his fees. In other words, he is overshadowed and has cheapened himself.

Physicians of all classes must learn to make charges commensurate with the value of their services. Fee-bills hinder in this. The fee-bill is the union scale. It bolsters up the incompetent and often prevents the high-class, scientific man from getting his deserts. A hidebound fee-bill and an increasing lack of appreciation of the practitioner's value, dwarf him, and compel him to resort to questionable methods for playing even. He must learn to elevate his standing by special fees for his improved methods of diagnosis and treatment. These have been acquired, perhaps, by special post-graduate courses, time abroad, and special equipment, and yet his price per visit or consultation is the same as it was twenty-five years ago.

Surgeon's fees may be no greater, but when we come to consider that it is possible for the surgeon to operate on several patients in the course of one morning, which is rendered possible by having the command of an unlimited hospital force, we can readily understand how the net results may be much greater than in the earlier days of surgery. On the other hand, the practitioner finds his work more exacting and painstaking, requiring more time, trouble and expense.

The rapid development of surgery during the last quarter century, with its greater rewards, has attracted so many to its ranks that competition for business has become so keen as to bring about these trade methods. Too many are now occupying the surgical field to be favored with teaching and hospital positions. Therefore, other means must be resorted to for attracting business. This custom of fee division, however, was probably established by some of the very men holding these places, and now their old weapon is turned against them.

Many of our surgeons throughout the country are ready-made after a few weeks at some of our large clinics, and then after self-styling themselves as surgeons and passing word along the line that they are liberal and fair with the general practitioner, they are soon doing business and are not embarrassed by that period of waiting so well remembered by some of us.

Our medical schools have been remiss in their ethical instruction to students. The subject of fee division has been eschewed in some faculties for fear of engendering feeling, developing strife and endangering the integrity of the organization. The same silence has prevailed in medical societies, because it might cost something to speak. Students are now without the close contact that was enjoyed in the days of the preceptor, whereas they now need more of the moral and ethical side than ever before.

Clearly so gross a violation of honesty and ethics, if continued, will lead to greater violations of fair play. If our tendency is to lower levels of conduct, it will be but a question of time until our noble profession will be out of favor with the people. There has never been a time when full confidence is more needed, because the cooperation and confidence of the people is necessary to secure the legislation needed for conserving the public health. This would aid the people in realizing our dreams of health and resultant happiness from the prevention of disease consequent on a universal crusade against violations of hygiene and health, and for the elimination of all preventable disease. A mercenary profession unworthy of public confidence will retard this movement and the unworthy members must be held to account by us and our standards maintained. A present the profession is becoming demoralized and our standards are being systematically assailed. Not only our standards, but those who stand for them, are attacked and their characters and motives are besmirched.

The graft element is going into medical politics and some county societies are controlled by this element The old guard is discredited and lowered standards set up. The influence of these classes is against the American Medical Association, and their influence is soon to be felt in their organized opposition. The profession of Chicago and some other places do not have to go from home to read the handwriting on the wall.

The demoralization will be more complete when this practice extends to other lines than surgery. The movement has begun, and consultation practice and other specialties are now in the throes of this evil. The practitioner will call a man of sufficient standing to enable him to name a fancy price as the consultant's fee, which he collects and then remits the consultant the minimum fee. Any one of us can verify this by personal experience.

The primary object of fee-splitting is to get business It is unfair competition. It has been my observation that fee-splitters are bad competitors in other ways They will resort to other equally devious or questionable means of getting patients. They are usually underbidders; they lack sincerity; they are dishonest; they do not stop at dividing with physicians; hotel clerks hack-men, news-agents, bar-keepers, ordinary clerks traveling men, medical students, priests and preachers—all are represented, though few of the latter classes stoop to this practice. Those who do this will not sto at wilful *misrepresentation of men of high characte* and standing. Physicians go lower and lower wh become infected with this vice, and their penchant fo easy money becomes their undoing. Their method become known in a community. Then they sell out move to another locality, and immediately proceed t repeat their previous methods. These, of course, ar exaggerated examples of the grafter, but a physician who grafts at all is not only unethical but also dishonest

The graft spirit has developed alarmingly within decade, but a reaction has set in. Encouraging report of progress have come from Chicago, Minneapolis and St. Paul, and I am pleased to report that a stand ha been taken by the faculty of the University of Nebrask and of the Creighton Medical College. Whole state are, however, reported in the grasp of the system. Kansas, Iowa and Missouri, as well as many other states are affected by it. From Kansas specialists report tha division of fees is too mild a term; that the surgeo must now accept what the general practitioner is willing to give him.

Hospital service is now required for graduation by some medical colleges, and considerable numbers who have had hospital training and are qualified to do surgery go to our smaller cities and larger towns. To gain a foothold, notwithstanding the prestige of college professors and the large denominational city hospitals to meet competition, a resort to fee division and ultimate graft is the easiest course. The wail is going up in every quarter from our less enterprising but more conscientious confrères, and we are now hearing from some of our city brethren, who are beginning to observe the rather alarming prevalence of these methods of finance, exploitation of cases, and the merchandising of patients.

After all of this lugubrious, pessimistic and despairing talk of conditions in our profession I am still hopeful. Physicians as a class are the best people on earth, made so by their education, environment, every-day training in charity and human sympathy.

This evil thing had a very innocent and insidious start. The surgeon wanted to be fair and divided fees that the physician had in part actually earned. Nobody was harmed, for the patient had not been wronged. This seemed innocent enough. Then came the time when the physician collected the fee and told the surgeon that the patient could pay nothing, or could pay but little, and either kept the whole or an undue portion, or took the divided fee and then rendered a separate bill. After this he became money-mad and sought subjects on which to satiate his sordid desires for easy gain. If the honest surgeon turned him down he sought those who would not and he has been busy ever since.

The surgeon who follows the lines of least resistance in these moral matters soon finds himself in the grasp of the system. Many very good, but quasi-respectable, men follow this practice, persuading themselves that the doctor cannot be paid too much, and uphold the practice because it suits their convenience and is more profitable. Then, too, they say, "What's the difference?" The difference is most keenly realized when you have to tell your son, as I have mine, that our profession is becoming commercialized.

The prospects, therefore, are not encouraging for the profession, and we are compelled to admit that it is not what it once was. Its ideals are lowered. Its ethics may not be maintained and the best men under these conditions will not be eager to enter it.

Such courses, if pursued, will cost the profession its influence, cause loss of respect and confidence on the part of the people. Overcrowding and commercial competition will cheapen services and with the increase of endowed hospitals, dispensaries and laboratories, rewards for scientific medicine will be reduced. The general profession, which is already overshadowed by specialism will then be in hard lines. Every time a physician fails to make a proper and independent, self-respecting charge for the services rendered by him in the making of a diagnosis, recommending an operation, accompanying a patient to a hospital, being present, or assisting in an operation, he belittles himself, unduly aggrandizes the surgeon and discounts his own future usefulness, making it that much harder for those who follow him.

To be respected the physician must be self-respecting and respectable. He is the surgeon's friend and the surgeon will help him, if he wishes, to be independently, adequately, and respectably paid for his valuable services to the patient and to the surgeon as well. Division of fees is wrong, dishonest, and must be stopped for the good of all concerned. It has been my settled conviction for a long time that the physician is the ultimate loser by this practice, no matter how immediately profitable it may be to him. He is becoming dwarfed by his own short-sightedness and asphyxiated by a noose which was cast about him by a crafty specialist, perhaps, but which he himself is now tightening about his own throat.

There has been more harm done than can be overcome in a generation. Delayed action means more sacrifice. The organized profession should busy itself in reformation and take its stand in medical colleges, hospitals, and societies, and as individuals and organizations, educate the public and reform our own members. The most hopeful view may be taken of the result. Any practice which even smacks of graft, or of obtaining money under false pretenses, cannot endure before a righteous public opinion. Nor will it continue in a profession which has cherished ideals from Hippocrates and the whole line of medical saints, religiously followed by the vast majority, during all the ages of the history of medicine.

501 Paxton Building.

THE TREATMENT OF ANTEFLEXION OF THE UTERUS*

HENRY T. BYFORD, M.D.
CHICAGO

I have nothing new to offer in the treatment of anteflexion of the uterus, except the resolution not to offer anything new. The great and original Solomon knew of nothing new. In surgery most of the new things are nuisances because it takes so much writing of papers and mutilation of patients to demonstrate that the new usually eventuates in nothing, and should not be written about.

My experience with anteflexion is that somehow or other we have always been able to relieve our patients. Yet, judging from the new things that have been advocated from decade to decade, one would infer that up to the present time, or at least up to the last new thing that is offered for trial, the real thing had not been discovered. It is "off" with the old and on with the new." There are many great operators, yet few great surgeons. The fact is that those who make real advances in surgery, as in other arts, do not look into the future but into the past. They take the good they find in old things and adapt it to the needs of the present, and thus advance our knowledge by giving us, not something new, but only the appearance of something new. But I am not going to offer even the appearance of something new. I am content, with Solomon, not to pretend to know anything new.

Instead therefore of looking toward the future which, until it comes, can have nothing reliable to teach us, let us review what the past has taught us. In mild cases of anteflexion with dysmenorrhea and sterility a few moderate dilatations by the sound have been followed by pregnancy and cure. In other cases divulsion and temporary packing of the cervix have sufficed. But we have not infrequently encountered cases in which congenital and developmental deficiencies were such that these methods only temporarily relieved the dysmenorrhea, and the sterility not at all. In some of them the monthly crises have led to hyperplasia of the uterus and ovaries and chronic invalidism, and last, but not least, to a loss of the ovaries by operation. The uterine body is apt to be well developed, or to become so as the result of the excessive monthly hyperemia connected with its distention by the menstrual fluid and its efforts at expulsion; but in the cases of which I am speaking, the uterine ligaments remain short, the cervix and vaginal fornices poorly developed, and more or less pressure atrophy of the anterior cervical wall takes place.

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* Read at the twenty-third meeting of the Southern Surgical and Gynecological Association, Dec. 13, 1910.

A few dilatations with sounds, or divulsion and packing, unless followed by pregnancy, cannot rectify the last-mentioned conditions. Discission of the cervix, whether by the Simpson or Sims methods, or by the Dudley or Pozzi modifications, does not rectify them. These operations often cure the dysmenorrhea and establish uterine drainage, but they mutilate and tend to throw the cervix out of function, and thus favor atrophy rather than development. The relief from suffering is frequently, although not always, immediate, yet in quite a proportion of cases is not permanent. When it is permanent the mutilation is apt to be such that the uterus cannot retain the fecundated ovum. In short, such operations benefit the surgeon rather than the patient or posterity.

What is lacking in all of these procedures is the development of the cervix and vaginal vaults. The uterine cavity is not even made straight; its lower or cervical portion is destroyed, and thus a portion of the curve eliminated. But anteflexion is normal, and the cavity of the uterus does not have to be made straight. The entire uterine cavity can be made large enough to allow of a normal outflow of the secretions without destroying the lower or cervical portion. Such a condition we sometimes observe in multiparæ with extreme anteflexion. And just as we can obtain this result temporarily by an adequate dilatation, so we can secure it permanently by keeping the cavity adequately dilated. But there is only one way of keeping it dilated and that is by developing the cervix. Pregnancy does this and takes months to do it. We can also do it, but we must also take months, many months. Goodell tried to do it by the extent of the dilatation. Gill Wylie succeeded by a persistent use of a stem after the divulsion, and Davenport still uses the stem method quite successfully. The Outerbridge stem has, I think, been successfully used, but it is not a safe instrument. Vulliet kept the uterus packed with cotton balls for variable lengths of time with success. Experience and reason have taught us that almost any foreign body that cannot be accommodated in the uterine cavity without some enlargement or stretching of that cavity, will, if kept in it, cause some development of the uterus and its cavity in size. If the foreign body project down into the cervical cavity it will act similarly on the cervix. But any foreign body left in the uterus is liable to cause abrasions and infection, and, with the supervision that can ordinarily be given, invites disaster.

Since none of these methods has found general favor, and it is no longer considered an evidence of fogyism not to perform a radical operation, I shall venture to present the claims of the method I have always employed. It consists in introducing a body large enough to overdilate the cervix, and often enough to keep it overdilated. I have treated puerile cervices on this principle and feel that I am very far within bounds in saying that if we can keep the entire cervix dilated sufficiently for the passage through it of a number 20 (Am. scale) male urethral sound from one to two years the cervix will then continue to functionate normally. And this treatment is not so strenuous and tedious as the words "two years" would suggest.

Without the recital of individual cases I will say in a general way, that I have sometimes commenced by dilating biweekly with a small block-tin sound and have progressively dilated to about the size indicated. I have then maintained it by means of weekly dilatations for a time, then bimonthly, then monthly until the year was up. As a rule I have had the patients come back in six months or a year for a few weekly dilatations in order to be sure of permanency of results. In most cases I have preferred beginning with divulsion under general anesthesia and have then prevented contraction by the periodical passage of the sound. But the important and indispensable part of the treatment is its continuance for many months. In the event of a return of the dysmenorrhea an immediate resort to the treatment gives prompt relief. A few biweekly dilatations followed by a few monthly ones usually suffice to render the cure permanent.

The greatest objection to the treatment is that it is painful. I reduce this objection somewhat by passing the sound frequently at first, *i. e.*, by not giving the cervix time to contract too firmly between times. As the tendency to rapid, firm contraction diminishes, the dilatations can be made at longer intervals without increase of pain. I like, however, to dilate as widely each time as the patient will tolerate because the greater each dilatation and stimulation the greater the effect on development. As I have already said the tedium of the treatment is not as great as one might suppose, because, after the dilatations are a month apart, they occupy but little of the patient's time and attention, and can then be continued as long as desirable. The temporary pain of one or two treatments each month is more easily and willingly borne than the monthly dysmenorrhea, the more so as the patient knows that they will soon become less frequent. The pain ceases the moment the sound is withdrawn, and the patient may go out from the office to do her shopping.

With regard to the technic, the patient takes a copious normal salt douche before leaving home for the office. After the introduction and adjustment of a sterile bivalve speculum, the vaginal fornices and cervix are swabbed out thoroughly with a 5 per cent. solution of phenol, and the sound, after having been curved to suit the case, is dipped into the same solution immediately before being passed. Sometimes it is necessary to steady the cervix with vulsellum forceps, but the vaginal fornices are often so small that the expanded speculum puts them on the stretch and keeps the cervix from receding too far. Before removing the speculum I disinfect the uterine cavity, and introduce a dry sterile wool tampon under the cervix and leave the latter for twelve or twenty-four hours for its dilating effect on the vaginal fornices. The patient withdraws it by means of an attached thread and uses a copious normal salt vaginal douche.

I have thought it worth while to go into the details of this old, well-known treatment for the following reasons:

1. I know of no book or monograph in which its efficacy is given proper appreciation.

2. I know of none in which the necessity of such persistence in overdilatation is sufficiently emphasized.

3. I know of no method that will give better results if persisted in to the extent I have recommended.

4. I know of no cure that is as safe in the hands of the average practitioner.

5. I know of no book in which a sufficiently definite detailed technic is given.

6. The cutting methods are all objectionable and irrational in cases of arrested development.

I might add that, in patients who are hyperesthetic or intolerant of pain, this treatment can be combined with other treatment. For instance, if the patient will not allow a sound of the same size to be passed each time, and the cervix gradually contracts, divulsion under anesthesia can be performed two or three or four times at intervals of two or three or four months and the dilatation kept approximately at the same degree by the sound between times.

100 State Street.

THE IMPORTANCE OF THE AUTOPSY AND OTHER PATHOLOGIC-ANATOMIC EXAMINATIONS[*]

HANS CHIARI, M.D.
Professor of Pathology, University of Strasburg
STRASBURG, GERMANY

In 1761 Giovanni Battista Morgagni (1682-1771, Professor of Anatomy in Padua) published his famous work: "De Sedibus et Causis Morborum per Anatomen Indagatis," and thereby became the real founder of human pathology. He attempted to give a very complete picture of morbid processes by carefully comparing the clinical aspects of disease with the anatomic findings in a large number of cases. In the title of his work Morgagni summed up the chief problems of pathologic anatomy and in recognition of this fact Rokitansky (1844-1875 professor of pathology in Vienna) used the title in the following somewhat modified form, for the inscription on the pathologic-anatomic institute in Vienna: "Sedibus et Causis Morborum per Anatomen Indagandis."

As the sphere of pathologic anatomy has broadened since it became an independent science seeking to solve its own problems, not only by the examination of the cadaver, but also in other ways, for instance, by the experimental method, the position of the pathologist has correspondingly increased in importance. In the autopsy room the pathologist must take due cognizance of the ever-broadening and more exacting demands of the clinician; he must endeavor at each autopsy to give the physician a satisfactory explanation, and he must examine each case most minutely with the aid of modern methods of histology and bacteriology. By means of such elucidation, he will materially assist the clinician, and he will also develop new ideas in his own scientific field. In this way he can advance toward the goal of all the medical sciences, namely, the relief of human suffering.

Therefore there can be no doubt of the need of pathologic investigation. All the medical schools and hospitals are wise in striving for a large amount of autopsy material in order that the students may be instructed, that physicians may gain experience, and that the interests of science may be advanced. Naturally the autopsies must all be done with the strictest adherence to the principles of humanity, with careful consideration for the wishes of the relatives, and with the greatest precautions to avoid any mutilation of the body. To this end pathology has at its disposal a well-developed technic which is constantly being improved.

In order to give a graphic picture of the importance of post-mortem examinations, I should like to select a series of cases from the eighty-seven autopsies performed at the Pathological Institute in Strasburg during the month of June, 1910, and to discuss them somewhat in detail:

ILLUSTRATIVE CASES: CLINICAL AND PATHOLOGIC-ANATOMIC DIAGNOSIS

Eleven cases of fatal nutritional disturbances in infants between the ages of 2 and 6 months: six cases of enteritis; five cases of general atrophy.

Two cases of status lymphaticus:

Patient, male, aged 16. Otitis media with meningitis and chronic general tuberculosis. Death while under chloroform narcosis at the beginning of the operation.

Patient, female, aged 27. Ruptured tubal pregnancy in second month. Salpingectomy seven hours after rupture. Death three and one-half hours later. Moderate anemia.

Four cases of fatal embolism of the pulmonary artery:

Patient, female, aged 38. Death from thrombosis of the right femoral vein, four days after salpingectomy for gonorrheal salpingitis.

Patient, female, aged 53. Death from thrombosis of the ovarian vein of the left side, six days after double ovariotomy for carcinoma.

Patient, female, aged 58. Death from thrombosis of the left external saphenous vein, six days after operation for femoral hernia.

Patient, female, aged 63. Death from thrombosis of the right external saphenous vein, twenty-two days after encephalomalacia.

Two cases of auto-intoxication from incarcerated hernia:

Patient, male, aged 73. Incarcerated inguinal hernia for five days. Death one day after operation for hernia. Epithelial necrosis of the kidneys.

Patient, female, aged 58. Incarcerated femoral hernia for four days. Death three days after operation for hernia.

Two cases of latent septicemia:

Patient, female, aged 40. Clinical diagnosis: ileus from carcinoma of the sigmoid flexure. Pathologic-anatomic diagnosis: streptomycotic peritonitis caused by suppurative salpingitis.

Patient, female, aged 56. Clinical diagnosis: chloroform narcosis after hysterectomy for ulcerating carcinoma of the cervix. Death one day later. Pathologic-anatomic diagnosis: streptomycotic septicemia.

Two cases of birth injuries:

Fetus of 9 months. Breach extraction. Compression of skull and rupture of the spinal column between the fifth and sixth dorsal vertebræ.

Patient, female, aged 25. Transverse position. Laceration of the vagina following attempted version outside of the hospital.

One case of criminal abortion:

Patient, female, aged 24. Pyemia after abortion. Laceration of the vagina, posterior labium of the external os and of the cervix.

One case of injury due to enema:

Patient, female, aged 38. Peritonitis from perforation of the rectum.

Two cases of latent carcinoma of the stomach:

Patient, male, aged 43. Clinical diagnosis: carcinoma of the sigmoid flexure. Pathologic-anatomic diagnosis: carcinoma of the pylorus and secondary carcinoma of the peritoneum, with stricture of the sigmoid and of the descending colon.

Patient, female, aged 27. Clinical diagnosis: carcinoma of the ovaries. Pathologic-anatomic diagnosis: carcinoma of the posterior gastric wall and secondary carcinoma of the ovaries.

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[*] Address delivered before the Harvey Society, New York, October 15, 1910.

One case of latent pericarditis:

Patient, female, aged 71. Clinical diagnosis: lobular pneumonia. Pathologic-anatomic diagnosis: lobular pneumonia, tuberculous pericarditis with effusion, latent tuberculosis of the apex of the lung.

One case of late recurrence of carcinoma:

Patient, male, aged 47. Recurrence of carcinoma in the cicatrix four years after excision of the carcinomatous rectum.

One case of puerperal eclampsia:

Patient, female, aged 37. Multiple necrosis of the liver.

One case of Hodgkin's disease:

Patient, male, aged 27. Swelling of the left lymphatic glands and left tonsil. Nodes in the spleen, lungs and pleuræ. (The same diagnosis was made nine months previously from an extirpated axillary gland.)

One case of nephrolithiasis:

Patient, female, aged 67. Right hydronephrosis and uratic calculi. Left uratic nephrolithiasis. (Calculi in left kidney stained with methylene blue.)

COMMENT

The cases of nutritional disturbances in infants confirm the frequently expressed opinion that serious digestive disturbances occur without even microscopic changes in the intestines, which depend entirely on chemical alterations in the intestinal contents. These chemical changes are being carefully studied of late by pediatrists and thereby a real basis for a correct therapy is being established.

The cases of status lymphaticus show the great significance of this constitutional anomaly. Patients of this class stand chloroform anesthesia and loss of blood very poorly.

The four cases of fatal embolism of the pulmonary artery are good illustrations of the frequency of this lesion, which so often interferes with the success of operations. Such an embolism is not a rare occurrence, and it is easy to realize that surgeons take every precaution to avoid such a complication. This condition cannot always be diagnosed clinically with certainty, and therefore the autopsy is necessary to confirm the diagnosis.

The cases of incarcerated hernia serve to show how much danger attends the retention of the intestinal contents. Very commonly this decomposition of the intestinal contents causes an auto-intoxication to which the patients succumb in spite of a successfully performed herniotomy. In order to prove this point of view, I have but to refer to the first of the two cases in which the microscope showed diffuse necrosis of the renal epithelium. In other cases, on the contrary, the necrosis of the liver parenchyma is of special interest.

The two cases of septicemia emphasize the importance of bacteriologic examinations at the post-mortem table. In the first case, no positive clinical diagnosis could be made. The autopsy showed a streptococcic peritonitis due to a purulent streptococcic salpingitis, which in turn, judging from the nature of the bacteria, was of puerperal origin. In the second case, streptococci were cultivated from the heart's blood and from the various tissues of the body, and the case therefore had to be diagnosed as a streptococcus septicemia. Later, on talking the matter over, the clinician thought, and rightly, I believe, that the infection was due to the deep ulceration of the carcinoma of the cervix, which had been curetted.

The cases of birth injuries are of great importance because they can easily result in severe injury to mother and child. In the first case, the delivery was certainly difficult, and in spite of the fact that it was performed by a very competent obstetrician, it resulted in a fracture of the spinal column. In the second case, a physician not in the hospital had made several attempts to correct a complex presentation by means of version and had thereby lacerated the vagina so severely that there remained only a strip of its anterior wall behind the urethra. The patient was subsequently brought to the hospital and died of acute anemia.

The case of criminal abortion shows the typical lesions which we find in this class of cases. Frequently there occur punctured wounds of the posterior wall of the vagina, perforations of the cul-de-sac of Douglas, injuries of the posterior lip of the cervix and of the adjoining portion of the uterus. As these injuries are for the most part done with unclean instruments, the women so treated are very often victims of fatal puerperal infections.

The case of injury due to enema, which happened to a 38-year-old woman outside of the hospital, may serve as a warning. Pathologic anatomy teaches that such injuries from enemas are due to the use of hard cannulas, and are, especially in children, much more frequent than is generally believed.

The cases of latent carcinoma of the stomach are very important from a diagnostic point of view. In the first case, the secondary carcinoma of the peritoneum, which had invaded the sigmoid flexure and caused a stricture, was diagnosed as a primary lesion, and in the second case we were dealing with a condition frequently described of late, a primary carcinoma of the stomach with typical secondary implantation lesions in both ovaries in which the secondary metastases had been regarded as primary lesions.

In the same way, the case of latent pericarditis demonstrates the difficulty of many a clinical diagnosis.

The case of recurrent carcinoma in the scar four years after extirpation of the rectum for carcinoma, is instructive because this recurrence was a very late one. We now have, however, definite knowledge of much later relapses.

The case of puerperal eclampsia was typical. It showed perfectly the characteristic areas of necrosis and hemorrhage of the liver, which were first described by Schmorl.

In the case of Hodgkin's disease there was found the well-known histologic condition of granulation tissue with fibrous connective tissue and polynuclear giant cells in all the diseased areas; these lesions had also been found in the axillary glands, which had previously been extirpated for diagnostic purposes.

The last case had the significance of an experiment. The 67-year-old woman had been given methylene blue on account of symptoms of cystitis. At the autopsy the uratic calculi in the left kidney, which secreted urine, were stained with methylene blue, whereas those in the right kidney, which had ceased to functionate as a result of atrophy following hydronephrosis, were entirely free from any stain.

These cases, selected from the records of one month, well demonstrate the importance of the careful routine autopsy and indicate how much the student and physician can learn both from a scientific aspect and from the point of view of the welfare of the patient. Every autopsy adds to our store of knowledge and justifies the old adage which we often see inscribed in the autopsy room: "Hic est locus ubi mors gaudet succurrere vitæ."

A pathologic institute can be of service to the physician and of benefit to the sick in other ways. I refer to the microscopic diagnosis of tissue removed by the surgeon. I may here mention the results of the microscopic examination of curettings from the uterus. How often the examination does not determine whether we are dealing with an abortion, an endometritis or a carcinoma!

Furthermore, I may refer to the microscopic examinations for carcinoma of excised tissue, a recourse which so often saves the patient from the sacrifice of important organs, e. g., the tongue, the larynx, the penis, the cervix. On the other hand, if the carcinoma or other neoplasm is diagnosed, it may lead to an immediate life-saving operation. Finally, I wish to emphasize the importance of a careful examination of excised tumors, for this not infrequently, to the gratification of the pathologist, demonstrates that a condition which has been considered malign is in reality benign and permits of a favorable prognosis. These investigations are indeed very difficult and the pathologist cannot be too careful in his reports; otherwise there is danger that he will bring undeserved discredit on the value of diagnoses made from excised tissue. He must never hesitate to acknowledge that he is unable to render a definite diagnosis. Then he will rightly fulfil his duty and the clinician will appreciate the weight of his opinions.

Thus it is seen how important is the function of the pathologist in performing autopsies, and how his calling is not only didactic but humanitarian. His work, therefore, deserves support and encouragement from all sides, and especially from the laity. The public must be made to appreciate to an ever-increasing extent the importance of pathologic anatomy. That this hope may soon be realized is my earnest wish, especially for the American universities.

A METHOD OF TREATING THE PROSTATIC UTRICLE *

J. T. GERAGHTY, M.D.

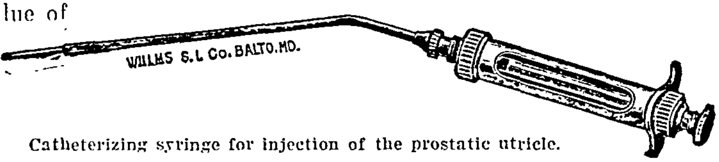
Associate in Genito-Urinary Surgery, Johns Hopkins Hospital
BALTIMORE

Urethroscopy of the posterior urethra has been comparatively slow in developing, and not until the last few years has sufficient attention been directed to this important field. One result of this increased study has been the recognition of the important part which diseases of the verumontanum play in the production of severe and often distressing symptoms, generally classed as prostatic neuroses. In the milder cases remedial results were obtained by massage of the prostate, dilatations, instillations, etc. In others only temporary relief could be obtained by these measures, while in the aggravated cases frequently no amelioration was obtained.

Wossidlo was the first to call attention to the manifold symptoms which resulted from inflamed conditions of the verumontanum. He found that various symptoms usually ascribed to chronic prostatitis were not infrequently encountered in individuals in whom no prostatitis could be demonstrated. Sexual disorders such as precocious ejaculation, painful ejaculation, frequent seminal emissions, neuralgic pains in the perineum, groin and testicles, suprapubic region, sciatic pains, backache, etc., were associated commonly with the pathologic condition of the verumontanum. In the milder cases he recommended painting with tincture of iodin; in the severe cases he employed 10 to 20 per cent. silver nitrate or even a caustic stick, making direct applications through the urethroscope.

Young, for a considerable time, has practiced curettage of the verumontanum, following this by direct application of a pure stick of nitrate of silver.

The edematous condition of the verumontanum in many cases, with a normal appearance of the mucous membrane covering it, and the frequency with which one finds the orifice of the utricle intensely red and congested, suggested that in many of these cases the seat of the trouble lay in the utricle itself. In normal cases the verumontanum is seen through the open urethroscopic tube as a small, rather rounded, elevation; the mucous membrane covering it is distinctly pale and in marked contrast to the rather deep red of the surrounding urethral mucosa. In the midline and directly anterior, in the majority of the cases, can be seen the orifice of the prostatic utricle. The shape and size of the orifice varies; in some it appears as a minute, rounded depression, in others the orifice is a distinct slit, occasionally several millimeters in length. The ejaculatory ducts are usually not visible, but are situated laterally and generally lower on the wall of the verumontanum than the opening of the utricle. The cavity of the utricle varies some in size and shape. In most cases it is 0.5 to 1 cm. long. It may, however, be several centimeters long and extend up beneath the urethra as far as the bladder. I have found that the capacity of the utricle varies from 5 to 10 minims in the average case, but in an exceptional case it may be as much as 30 minims.



Catheterizing syringe for injection of the prostatic utricle.

The utricle is to be considered as a rudimentary organ representing the terminal portion of the Müllerian ducts, and for this reason it has been called the *male* uterus, although it is more correctly the analogue of the vagina.

It seems very probable that the utricle, on account of its size, can readily be the lurking-place for infection and as a result of the diseased condition in this cavity give rise to the pathologic picture so frequently seen in the diseased verumontanum. Although the literature is replete with references to the inflamed appearance of the utricular orifice, and numerous observations of pus exuding from the utricle have been made, no practical method of treating this sinus has, so far as I am aware, been suggested. The ease with which the orifice of the utricle can be observed in most cases, and the considerable size of the outlet, suggested the possibility of catheterizing through a straight urethroscopic tube and making injections directly into the cavity. By means of a syringe, shown in the figure, it has been found not only feasible, but surprisingly simple, to make injections directly into the utricular cavity.

Technic: A straight Number 24 (French) urethroscopic tube with an external light is passed into the prostatic urethra beyond the verumontanum. Introduction of the straight tube to this point is practically always readily performed without the production of any trauma. The introduction of the tube beyond this point in occasional cases is accomplished with some difficulty, owing to the rather acute ascent of the posterior part of the prostatic urethra to the vesical orifice. When the tube, after passing some distance through the prostatic urethra, encounters resistance, one is practically always beyond the verumontanum. On moving the obturator one readily recognizes from the Y-shape of the urethral orifice that the end of the tube lies towards the vesical end of the verumontanum. The tube is then gradually withdrawn until the readily recognized verumontanum bobs into view. The tube is withdrawn until the anterior face of the verumontanum projects into the open portion of the tube. The mucous membrane is carefully and gently sponged with cotton swabs. The above position of the tube causes a tilting forward of the verumontanum so that the utricular orifice, which lies rather on the upper surface, comes directly facing the open end of the tube. The tip of the syringe can now be readily introduced into the orifice of the utricle, the contents of the utricle aspirated for microscopic examination, and injection readily made into its cavity. Not infrequently, owing to the edematous condition of the mucous membrane, the utricular orifice is not visible, but with gentle probing with the tip of the syringe in the middle towards the upper surface one will rarely have difficulty in accomplishing catheterization.

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* From the genito-urinary clinic of the Johns Hopkins Hospital.

Silver nitrate has been the drug employed almost entirely, and it seems to give the most satisfactory results. While one can employ for external applications to the verumontanum silver nitrate in very concentrated solution, or the actual caustic, without the production, as a rule, of severe reactions, these strong injections are not well tolerated when given into the utricle. In patients with numerous neuralgic pains, the result of utricular disease, it is well to begin with injections of 1 per cent. and gradually increase the strength to 2 or 3 per cent. The employment of too strong a solution may cause intense pain lasting over several days. The injection should be given slowly, as forcible distention may be quite painful.

The reaction produced by too strong injections frequently reproduces in a striking manner the different neuralgic pains of which the patient has complained. When 1 to 3 per cent. solutions of silver nitrate are employed the injections may be repeated at intervals of from five to seven days, but when stronger injections are employed they should not be repeated more frequently than every two to three weeks.

Painful ejaculation, according to Wossidlo, is due to a sclerosed condition of the lower end of the ejaculatory ducts leading to more or less contracture. The forceful emptying of the seminal fluid through these narrowed inflamed ducts produces the pain which occurs, and in many cases the pain is so severe that the patient is forced to refrain from coitus. It seems probable, however, on account of the frequency with which one or both of the ejaculatory ducts open on the floor of the prostatic utricle, that when the seminal fluid is thrown into this cavity the sudden distention of the inflamed utricular wall may produce the sudden sharp pain occurring at the moment of ejaculation.

Hematospermia, which is seen in the absence of disease of the seminal vesicles, may result from congestion of the utricular wall. In one case of hematospermia aspiration of the utricular contents showed a considerable amount of bloody fluid.

The benefits ascribed to irrigation and injection of the vasa deferentia by some authors are probably explained in many cases by the flushing out of the prostatic utricle, which occurs owing to the fact of the ejaculatory ducts opening so commonly on the floor of the utricle. The good effects in these cases cannot result from the washing out of the seminal vesicles, as it is questionable whether the fluid injected into the vas finds its way to any extent into the cavity of the seminal vesicles, owing to their anatomic structure.

Dribbling of urine following the act of urination I have seen in many cases without any explainable cause. No stricture, sclerosed condition of the posterior urethra, pathologic conditions of the prostate or spinal cord trouble, could be demonstrated. In many cases observed, the dribbling has been a great annoyance to the patient and rebellious in responding to the usual forms of treatment. In four such cases in whom no improvement was obtained, as a result of dilatations electric applications, massage, etc., the dribbling has been entirely relieved by applications to the verumontanum and utricle injections. In two of these cases only slight improvement followed treatment of the verumontanum, but they responded rapidly and promptly to treatment of the utricle. The explanation of this does not seem clear. Infection of the utricle not infrequently is the cause of persistent recurring posterior urethritis. One case of persistent posterior urethritis, due to the colon bacillus, which had resisted during several years all efforts to dislodge the infection, on careful urethroscopy of the posterior urethra, showed pus oozing from the prostatic utricle. Injections of 1 to 2 per cent. silver nitrate into the utricle was very soon followed by a complete disappearance of the infection. Another patient with persistent posterior gonorrheal urethritis, who had been under treatment many months, was finally cured by the same procedure Infection in the prostatic utricle is probably the cause of many cases resistant to ordinary forms of treatment In some cases, particularly when the orifice of the utricle is small, it is well to snip out a wedge-shaped piece of the utricular roof, thus affording better drainage. This can be done by means of scissors devised by Young for excision of portions of the verumontanum.

AN IMPROVED GRAVITY APPARATUS FOR THE INTRAVENOUS INJECTION OF SALVARSAN

JOSEPH L. BOEHM, M.D.
ST. LOUIS

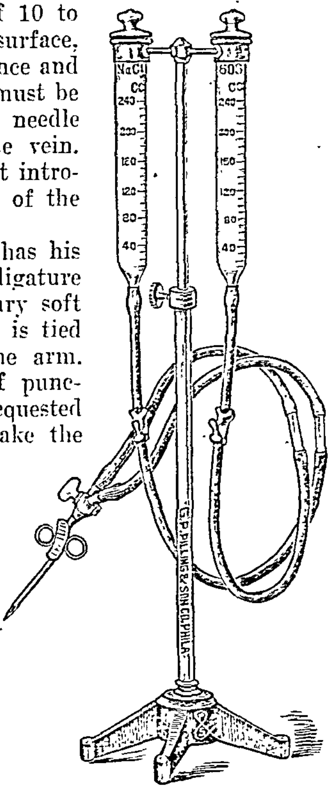
My improved gravity apparatus for the intravenou injection of salvarsan seems to overcome and solve many of the difficulties which, as reports have shown, are connected with this method. The aim is to avoid getting any of the solution into the subcutaneous tissues befor the needle enters the lumen of the vein. The severa syringes and forms of air-pressure apparatus already on the market have proved far from satisfactory, and leav much to be desired in the way of a perfect technic. My apparatus is portable, can be disconnected in all part of the stand, and by a thumb-screw allows of lowering and elevating the containers to any desired level, so a to control the rapidity of the flow of the solution into the vein. No solution which is not absolutely clear and sterile should be introduced into a vein. Clearness i to be obtained only by filtration through sterile filter paper. In my experience very commonly the salvarsan solution contains some foreign flocculent particles; and there is also danger of small particles of glass being chipped off, if glass beads are used in the mixing cylinder; even if a mortar and pestle are used to triturate the salvarsan, such flocculency commonly exists

Two graduated glass containers of 250 c.c. capacity are used. Into one is poured 150 to 200 c.c. of sterile salvarsan solution. The other is filled with a like volume of sterile saline solution (made with sterile distilled water and chemically pure sodium chlorid).

The saline solution is allowed to flow out of the needle so as to expel all air from the tube. The stop-cock is now reversed, allowing the salvarsan solution to flow out of the needle, thereby expelling all air from its respective tubing. The stop-cock is now reversed to its former position, until the saline solution is running in a slow even stream from the needle. The desired site of puncture is selected on the arm or at the elbow, and the needle is gently pushed or thrust through the skin into the vein. Meanwhile the saline solution is continuously running from it. The needle is held at about an angle of 10 to 15 degrees to the skin surface, depending on the prominence and caliber of the vein. Care must be exercised not to push the needle through both walls of the vein. This can be avoided by not introducing too long a surface of the needle into the tissues.

The patient previously has his arm carefully cleansed, a ligature in the form of an ordinary soft rubber catheter or tubing is tied around the middle of the arm, above the selected site of puncture, and the patient is requested to tighten the fist, to make the superficial veins more prominent.

As soon as the needle has entered the vein, the rubber ligature is released by an assistant, the stop-cock of the needle is reversed, and the salvarsan solution flows through the needle into the vein. Hence, there is no danger of any salvarsan solution getting into the subcutaneous tissues. No injection should be given intravenously in less than about ten minutes, and the solution must be quite warm when poured into the container so as to allow for its cooling when poured into the apparatus; when it enters the vein, the solution should be about the temperature of the blood. An ideal intravenous injection is painless.



Improved gravity apparatus for intravenous injection of salvarsan.

The needle will not produce cramping of the hand of the operator, as the thumb and middle fingers pass through the rings, and the index-finger rests on the corrugated plate on its superior surface, thus affording firm support and preventing the needle from changing position after it has entered the vein, which may occur if the patient coughs or sneezes. It affords a firm and comfortable hold, even if the operator wears rubber gloves, as I have invariably done in all my work in this line.

Another advantage of this needle is that the stop-cock is readily adjusted. While the needle is being introduced into the vein, blood must not be allowed to flow out of the vein and enter the tube containing the salvarsan solution. *Blood entering the needle at any time except* when the saline solution is constantly flowing out of the needle would have a *tendency to clot in it quickly* and block its lumen.

715 North Eighth Street.

THE SANITARY INSPECTION OF OYSTER-GROUNDS IN THE UNITED STATES[*]

C. A. FULLER, Ph.D.
Assistant Professor of Bacteriology, University of Wisconsin
MADISON, WIS.

The oyster industry forms a very important part of the marine fisheries of the United States. The market value of the products of the fisheries of this country (exclusive of Alaska) for the year 1908 was estimated by the Bureau of the Census[1] at $54,030,630. The income derived from the oyster trade alone, for the same year, amounted to $15,713,000, or nearly one-third the value of the total fishery products of the country.

The American oyster, *Ostrea virginia*, is found along the entire Atlantic coast from Maine to Texas. Two local varieties of oysters are also found on the Pacific coast. But the center of the oyster trade in America is confined to the Atlantic and Gulf states. The value of the product from these latter states amounted to $15,019,360 for 1908, while the output from the Pacific states for the same period marketed $695,640. Twenty-one states are interested in oyster production to a greater or less extent, the larger producers being Maryland, Virginia, Connecticut, Louisiana, New York and New Jersey. In 1908, Maryland marketed 6,231,967 bushels of oysters; Virginia, 5,075,014 bushels; Connecticut, 3,948,070 bushels; Louisiana, 3,650,456 bushels; and New Jersey and New York about two and a half million bushels each. South Carolina, Georgia, Rhode Island, Mississippi and Florida produced over 1,000,000 bushels each. The ten other oyster-growing states, with the exception of Maine and Oregon, marketed over 100,000 bushels each. In 1908 the oyster crop of the United States amounted to 33,329,925 bushels in market and seed oysters.

No very recent statistics on the extent of the oyster industry in other countries than the United States have been obtained, and in this connection reference is made to the data published by G. W. Fuller,[2] in 1905. This writer estimates the annual production of the United States at 28,138,434 bushels; of Great Britain at 2,760,000 bushels; of France at 2,000,000 bushels; of Holland at 70,000 bushels; and of the other oyster-producing countries at 610,580 bushels. From the above figures it would appear that the United States is by far the largest producer, and supplies the market annually with more than five times as many of these shell-fish as all the other oyster-producing countries combined. But, as is pointed out by Fuller, "these figures are not strictly comparable, as they refer in various instances to different years, beginning about 1890, and extending down to the present time (1905). But they serve to convey a general impression as to the relative extent of this important industry."

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[*] From the Department of Bacteriology and Hygiene, University of Wisconsin.

[*] Read before the Second International Congress of Alimentary Hygiene and of the Rational Alimentation of Man, Brussels, October, 1910.

[1] Preliminary Report of the Bureau of the Census on the Fisheries of the U. S. for the year ending Dec. 31, 1908.

[2] Fuller, G. W.: Jour. Franklin Inst., August, 1905.

A considerable proportion of the oyster-grounds in the United States, especially in the southern part of the country, is found in open water, quite remote from any possible source of sewage pollution. The sanitary condition of these grounds is, of course, above suspicion. A large number of oyster-beds, however, are located in inland tidal waters, many of them in the vicinity of large cities and towns which discharge their sewage directly into tidal water or into streams flowing into tidal water. Thus, oyster-beds exposed to gross sewage pollution are found in Boston Harbor, in the Providence River, in New York and Long Island waters, in Chesapeake Bay and numerous other places famous for the quality of their oysters. The federal government has no jurisdiction over these areas and under the existing laws, cannot control the pollution of tidal waters or prevent the taking of oysters from polluted localities. Very recently, however, the government has taken a step in the right direction by prohibiting the sale of polluted shell-fish in interstate commerce.[3] This law went into effect May 1, 1910, and is in substance as follows:

> It is unlawful to ship or sell in interstate commerce oysters or other shell-fish which have been taken from insanitary or polluted beds, or which have become polluted by packing under insanitary conditions or by the use of unclean receptacles.

A second federal act,[4] in effect June 4, 1910, prohibits the shipment or sale of oysters "floated" in polluted waters. By the enforcement of these two measures the government hopes to control the shipment and sale in interstate commerce of polluted shell-fish, but places no restrictions on the sale of such shell-fish within the states in which they are grown.

The ultimate control of the oyster products in the United States, however, rests with the different state boards of health and shell-fish commissions, which should be vested with proper authority by their respective legislatures to act in cases of shell-fish pollution. Very carefully formulated and well-enforced laws protecting the natural oyster grounds and cultivated beds and regulating the sale or lease of land for oyster culture have been in effect in many of the principal oyster-growing states for some time. But it is only within the last few years that any measures have been taken to regulate the catch of oysters from polluted areas, or to prevent the sale of infected shell-fish in the local markets. Nearly all the more important oyster-growing states have caused their shell-fish grounds to be inspected by various authorities, but in most instances these inspections have been in the nature of hydrographic rather than sanitary surveys.

In 1901 the legislature of Massachusetts passed acts directing the State Board of Health to make annual examinations of the conditions about the main sewer outlets of cities and towns and to prohibit the sale of oysters and other shell-fish taken from polluted areas. The board was also empowered to examine all complaints relative to the contamination of tidal waters, and if necessary to fix the boundaries of such pollution, and prohibit the taking of shell-fish from areas thus defined. The Board of Health has made several extensive surveys of the productive localities, covering practically all of the shell-fish grounds of the state. These surveys include careful inspections of the shell-fish areas and the bacteriologic examination of several thousand oysters and many samples of sea-water. As a result of these investigations[5] approximately 1,500 acres of shell-fish grounds in Boston Harbor and 700 acres in New Bedford Harbor have been condemned, and the taking of oysters and other shell-fish from these localities prohibited by the fish and game commission acting under the direction of the board of health. A number of convictions have followed the violation of the above restrictions, and fines prescribed by law imposed. The situation in Massachusetts has been somewhat complicated by the passage of a bill in 1907, "permitting the taking of polluted shell-fish for bait on securing permits from the board of health, and providing heavy penalties for both buying and selling. As a matter of fact, it is well-nigh impossible to enforce this law . . . and complete prevention from the taking of such shell-fish is the only method by which the public health can be properly safeguarded."

A careful and thorough investigation of the whole problem of shell-fish pollution has been carried out by the Massachusetts Health Department during the last ten years, with the result that much of the very best work in this country along these lines has been done in the bacteriologic laboratories of the Lawrence Experiment Station. Up to the present year Massachusetts has been the only state to recognize the importance of this question sufficiently to legislate against the taking of oysters and other shell-fish from badly polluted areas, and to enforce its legislation.

In 1908 the State Board of Health of New York made an extensive survey of the more important oyster-grounds of the state. The outlets of sewers and all other possible sources of pollution as far as the oyster-beds were concerned were located; the effect of tides, currents and winds were studied in so far as the time at the disposal of the department permitted; and bacteriologic analyses of oysters and water samples from various localities along the New York and Long Island coast were made. The time at the disposal of the board for these investigations was somewhat limited, and[6] "while the results of the field and laboratory work are in close harmony, the studies can only be considered as preliminary, and as such the department is not warranted in passing final judgment on the results, for the purpose of administrative action." Yet a large percentage of the oysters examined bacteriologically would be considered polluted, if judged by the usual standards, on the strength of the figures published in the report of the board. The department of health has, however, been endeavoring to control the evident pollution of tidal waters under its jurisdiction and its "policy since 1905 has been that further and unrestricted pollution of the waters of the state should cease, and in so far as the department has the power, the existing discharge of raw and ineffectively treated sewage should as rapidly as possible be prohibited."

The sanitary aspect of the oyster industry in Virginia was investigated in 1909 by the state board of health in conjunction with the state board of fisheries. This investigation included a careful sanitary survey of all the oyster-growing districts of the state with the bacteriologic examination of representative samples of oysters and sea-water from all localities; also an examination of the method of handling oysters for shipment, shucking and packing, and of the alleged practice of "floating" of "drinking" oysters for the purpose of increasing the bulk of the product. The results of these investigations[7] show that the majority of the oyster-grounds of Virginia are "perfectly safe from a sanitary point of view. The streams condemned are small and constitute only a small percentage of the oyster-grounds of the state. Steps have already been taken to prevent the sale of oysters from these areas, and their sale will not be permitted in the future under any circumstances." In addition to the general survey of the oyster-grounds of the state, frequent inspections of the suspected localities are made by the department of health and the dairy and food commission, and planting in areas found to be polluted is prohibited by the local authorities acting on the advice of the inspecting boards.[8] Certificates of inspection are also issued by the department of health to approved grounds, stating that the grounds in question have been inspected by the department and found free from dangerous pollution; and that oysters taken from these grounds are safe for human consumption. The department of health has been very active during the past few years in controlling the hygienic condition of the oyster-grounds of the state, and has the problem well in hand. At the present time the sale of oysters taken from any territory known to be polluted is prohibited by law.

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[3] U. S. Dept. of Agri., Food Insp., Doc. 110, October, 1909.

[4] U. S. Dept. of Agri., Food Insp. Doc. No. 121, May, 1910.

[5] Report Fish and Game Commission on Mollusk Fisheries of Mass., 1909.

[6] Twenty-Ninth Ann. Rep. N. Y. Dept. Health, 1908, p. 833.

An act of the New Jersey legislature, in effect April 6, 1910, directs the board of health[9] "annually or oftener if the board considers it necessary, to inspect the oyster and clam beds within the state for the purpose of ascertaining the sanitary condition of the same." Official records of each inspection are kept and certificates setting forth the results of inspection are issued to the parties concerned. The taking of shell-fish from areas condemned by the board of health, with the intent to sell for food, is an offense punishable by a fine of $100.

The Dairy and Food Commission of Texas[10] makes annual inspection of the oyster-beds along the Texas coast, but there are no specific regulations applying to cases of shell-fish pollution.[11] The Texas pure food and drug law, passed by the legislature March 20, 1909, which is in the main a copy of the federal act, might possibly be construed to regulate the sanitary condition of the oyster industry of the state, but contains no specific reference to polluted oysters.

A sanitary survey of the oyster-grounds of Rhode Island was made by Fuller[12] in 1901-02. These investigations showed that the beds in the Providence River and upper portion of Narragansett Bay were badly polluted with sewage. There are, however, no state laws prohibiting the planting or dredging of oysters from polluted sources or their sale for food.

The surveys of the oyster-grounds which have been made in other states were mainly in charge of hydrographic engineers or biologists studying the problem of oyster-culture, so that little or nothing in the nature of systematic sanitary inspections has been accomplished. Various state laboratories have been called on from time to time to examine bacteriologically samples of oysters and other shell-fish for suspected sewage pollution, but up to the present year no systematic sanitary surveys of oyster-grounds, including the bacteriologic examination of oysters and other samples have been made except in the waters of Massachusetts, New York, Virginia and Rhode Island.

One of the most perplexing problems which has been brought up by the investigation of the pollution of shell-fish by sewage is the determination of accurate or safe standards of pollution. At the present time several state boards of health are independently making special efforts to formulate a series of tests by the application of which the analyst can determine with a fair degree of accuracy the amount of pollution of shell-fish and water and report correctly whether or not oysters taken from any given locality are safe for human consumption. In the main, these tests consist in bacteriologic analyses of samples of oysters and water from suspected grounds, with the purpose of determining the presence or absence of the colon bacillus, the characteristic organism of sewage.

Early investigations have shown that this organism is not normally found in unpolluted sea water or in shell-fish taken from unpolluted sources. In their report on the investigation of the pollution of shell-fish by sewage, the Massachusetts Board of Health[13] states that "the evidence gathered in this work is fairly conclusive that *B. coli communis* and the streptococcus are not normal inhabitants of the shell water or body of either oysters or clams, and that their presence there must be considered proof of pollution." At a later date, Gage[14] states that "*B. coli* and sewage streptococci are absent or present in only a small proportion of samples [of shell-fish] collected from sources remote from pollution. On the other hand, the test organisms are always present in a majority of samples from sources whose pollution is evident."

Fuller[12] in his study of the oyster-beds of Rhode Island, found that *B. coli* was not normally present in oysters or sea-water collected from localities remote from sewage pollution.

The results of the bacteriologic analyses of market oysters obtained by the Connecticut Board of Health are similar to the above.

After the examination of a considerable number of oysters from presumably unpolluted sources, the Virginia Health Department[7] concludes "that the colon bacillus is not found as a normal inhabitant of the oyster either of the natural fluid of the shell or of the intestine."

The investigations of Hewlett,[15] Klein[16] and Houston,[17] point toward the same general conclusions. Dr. Houston says, "As regards deep-sea oysters, results are not quite decisive, but point strongly to the conclusion that not only typical *B. coli* but as well coli-like microbes are absent from them."

Evidently the weight of opinion leans toward the view that the colon bacillus is not found in shell-fish under normal conditions, and that mollusks containing this organism must be contaminated. But it is obvious that longshore oyster-grounds, particularly those in the neighborhood of cities and towns, are rarely if ever free from sewage pollution to some extent, so that in the majority of cases in which the sanitary condition of oyster-beds is under investigation, the question of standards of pollution becomes rather a problem of determining the amount of pollution permissible without danger to health, than one of determining merely the presence or absence of characteristic sewage bacteria in oysters and the water in which they grow.

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[7] Bull. Va. Dept. Health, May, 1909, p. 308.

[8] Communication from the Asst. Health Commr., Va., June 17, 1910.

[9] Chap. 97, Laws of New Jersey, session of 1910.

[10] Communication from Dairy and Food Commission of Texas, June 20, 1910.

[11] Texas Pure Food and Drug Law, House Bill 28, March 20, 1909.

[12] Fuller, C. A.: Appendix, Rep. U. S. Com. of Fisheries, 1904, p. 198.

[13] Rep. Mass. State Board of Health, 1905, p. 449.

[14] Gage, S. De M.: General Infectious Diseases, January, 1910, p. 78.

[15] Brit. Med. Jour., 1903, p. 1082.

[16] Fourth Rep. Royal Comm. on Sewage Disposal, 1904, ii, 61.

[17] Fourth Rep. Royal. Comm. on Sewage Disposal, 1904, iii.

Fuller[12] has regarded as polluted all shell-fish which were found to contain *B. coli*, but in the work in Rhode Island in 1901, he did not attempt to fix an arbitrary standard for the condemnation of oyster-grounds, beyond the determination of the presence or absence of sewage pollution as indicated by the bacteriologic analysis of these shell-fish for *B. coli*.

Conn[18] has regarded "all oysters contaminated which have shown the presence of *B. coli*." This "work has been on market oysters and not on oyster-beds" so that "no rule as to the proportion of contaminated oysters necessary to condemn an oyster-bed has been formulated" by him.

The New York Board of Health[19] did "not attempt to fix standards of pollution" deduced from their own experiments, merely "tabulating their results on the basis of the relative conditions as found" and using the "*assumed standards*" of other bacteriologists.

The federal government[3] has recognized the possibility of fixing a standard of shell-fish pollution by the food inspection decision of Oct. 14, 1909, in which it is stated that "the pollution of oysters with sewage can be readily detected by bacteriologic examination."

The Massachusetts State Board of Health has made a more thorough and systematic investigation of the whole problem of shell-fish pollution than the other health departments in this country, and for this reason the opinion of the Massachusetts authorities on this question is frequently sought by outside laboratories. And up to the present time standards for judging the sanitary condition of shell-fish which have been worked out by the Massachusetts board have been used in many of the bacteriologic laboratories in the United States. The position of the Massachusetts Department of Health on this question has been stated by Gage[14] as follows:

> With a sufficient number of samples the absence of *B. coli* or of positive fermentations followed by an overgrowth of streptococcus can be safely taken to indicate freedom from pollution, and when ten individuals are tested, a negative test in eight out of ten or 80 per cent. of the samples, can be assumed to be an indication of reasonable safety. Under the same conditions, a positive test in 50 per cent. or more of the samples must indicate pollution of a more or less dangerous character. Between these extremes, the interpretation is a question of individual judgment for which no hard and fast rules can be made.

In these tests the water within the shells and the intestinal content of suspected specimens are tested by the usual methods of water analysis.

The above statements unquestionably represent the fairest grounds that can be taken on this important question with the present knowledge of the subject. The examination of single specimens of shell-fish can have no more value than the bacteriologic analysis of isolated samples of water from unfamiliar sources. Sanitary inspection of the grounds themselves is often of greatest service in interpreting the results of laboratory analyses, and sometimes absolutely necessary in order to form a correct judgment when the bacteriologic examinations are of a doubtful character.

The period is distinctly constructive in tendency. Much work on the problem of shell-fish pollution is now in progress in American laboratories. Massachusetts and Virginia have been most active and apparently have the problem well in hand. New York has made a preliminary survey of its oyster-grounds, but the department of health does not feel that it has done sufficient work to warrant the fixing of definite standards of shell-fish pollution. New Jersey[20] is now taking active measures to control the hygienic condition of its large shell-fish areas. The shell-fish commission of Rhode Island is now making a very comprehensive survey of the waters of the state. Connecticut[18] is about to commence a sanitary survey which will cover all the tidal waters of the state. The Maryland Health Department[21] is examining bacteriologically various samples of market oysters but have formulated no standards of pollution. The present year will unquestionably be productive of important results which will add to the knowledge of the problem of shell-fish pollution and aid in formulating a more accurate and safer standard of pollution.

Note: Since the preparation of the above paper, the results of several laboratories, which have been engaged on oyster work during the past year, have been presented at the meeting of the American Public Health Association. The situation was carefully gone over and proposed standards of purity discussed. Among the more prominent of these was that recommended by the United States Bureau of Chemistry which has in charge the bacteriologic examination of oysters and other shell-fish for pollution under the food and drug acts of 1909-1910. This standard condemns all oysters in the shell which "show the presence of *B. coli* types of organisms when present in three out of five oysters in 0.1 c.c. of the shell liquor. These examinations are supplemented by an inspection of the beds from which the oysters were obtained, also by the bacteriologic examination of the water bathing the oysters from these localities.[22] The government has prevented the shipment and sale of several lots of these shell-fish which have not come up to the standard.

The survey of the oyster-grounds of Rhode Island has also been completed. The state shell-fish commission has used the federal standard of purity in interpreting the results of bacteriologic analysis and has condemned and refused certificates of inspection to more than half the oyster-grounds of the state, comprising an area of over 3,000 acres of cultivated oyster-grounds. About 25 per cent. of the beds were passed conditionally, subject to later inspection. Official certificates of inspection were issued by the commission only to grounds which came up to the federal standard of purity.

While a number of bacteriologists have employed the standard of the federal government in judging the sanitary condition of oysters, the general opinion of the American Public Health Association seems to be that it is too high. The committee on standard methods of analysis failed to recommend a definite standard of purity for shell-fish analysis since they felt that further investigation of the problem must be carried on before they were warranted in adapting any definite standard. The federal standard is a tentative one and "as yet there are no established standards for the bacteriologic examination of shell-fish."[22]

Acid Intoxication in Cholera.—During the stage of reaction in cholera it is not uncommon to see an almost abnormally bright color of the mucous membranes associated with a type of dyspnea approaching air-hunger. Such patients usually have either a partial or complete suppression of urine and an increase in the blood-pressure, which is sometimes as high as 200 millimeters of mercury. In cholera the symptoms of acid intoxication become so intimately related to those of uremia that differentiation is hardly possible. Indeed, it has been suggested by Senator that uremia from any cause whatsoever is only an acid intoxication.—A. Watson Sellards, in *Philippine Journal of Science*.

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[18] Communication from bacteriologist, Conn. Board of Health, July 21, 1910.

[19] Twenty-Ninth Rep. N. Y. Dept. of Health, 1908, pp. 846 and

[20] Communication from Chief of Div. of Food and Drugs, N. J., July 18, 1910.

[21] Communication from the Bacteriologist, State Dept. of Health, Md., July 21, 1910.

[22] Communication from U. S. Bureau of Chemistry, Dec. 21, 1910

THE PLAGUE IN NORTH CHINA

J. J. MULLOWNEY, M.D.
PEKIN, CHINA

The plague is very properly divided into three types: the bubonic, or that from affecting the lymphatic system which is usually the most common type; the septicemic, or that affecting the blood-system; and the pneumonic type, or that affecting the lungs more especially. The latter two types are usually most fatal.

The epidemic which was, in January, 1911, overrunning North China was of this last type—the pneumonic type—largely and of excessive virulence; although there were, as in all epidemics of this disease, some cases of the other two types, and more of the septicemic type than of the bubonic type. So far as our experience here is concerned—and that experience is confirmed by reports coming from other infected regions—scarcely any who have taken the disease have recovered.

The disease, so reports have it, has been found in sporadic cases, and even in small epidemics in southern Russia for several months, but the Russian authorities took strenuous methods to eradicate it and they had got it fairly well under control in Russia when in November, 1910, it was found to have come to Harbin. Harbin is in Manchuria, which, as is well known, is under the control of the Chinese government. Harbin is moreover on the Trans-Siberian railroad.

It is interesting to know how the disease got to Harbin. It is now believed that the disease was brought to Harbin through the infected hides which hunters and trappers brought to Harbin for market. It is known now that there was an epidemic among a certain fur-bearing animal, an animal something like the American muskrat, which the hunters of the north kill for the hides and sell in large quantities at Harbin. It has been found that the disease among these animals was due to plague; and the furs brought to Harbin for sale are believed to have brought the infection. Whether this be absolutely true, or whether the disease was brought to Mukden, Shanhaikwan, Tientsin, and Pekin through persons traveling on the railroad cannot be stated definitely. The fact is that Harbin was the original hotbed of the disease. It spread from there in all directions, usually following the lines of traffic, the principal of which is, of course, the railroad. The city of Harbin is divided into a Russian, a Japanese, and a Chinese part. The Russians and the Japanese took strenuous measures at once to stamp out the disease in their quarters, and they have it well under control, in their respective parts of the town; but the Chinese problem was a much more complex one, and their people much more numerous and perhaps less enlightened; consequently, the disease got beyond their control and it was from the Chinese native city of Harbin that the disease spread. The thing to do would have been to stop all railroad traffic from that city early in the epidemic, but that meant, of course, great loss of money and much inconvenience; so it was allowed to go on until, I fear, it was too late, for this disease in January was found as far south as Chefu, and had got to several towns some distance away from the line of the railroads. This meant that it would spread inland, for the Chinese villages and towns are numerous and usually not far apart in this region, so that people traveling by cart and on horseback would spread it to other inland villages.

If the disease gets to Central China, where the climate is warm and damp, it will find a soil excellently adapted for the spread of the disease. It may die out here in the North with the coming of the warm dry season, but with the coming of the wet season again it will be, doubtless, brought up from the south and central provinces again and practically become endemic unless the Chinese authorities employ most stringent methods to check the spread of the disease at once. It is due to them to say that they were in January rushing both foreign and Chinese doctors and assistants to the cities of Harbin, Mukden, Shanhaikwan and Tientsin, which are the largest cities on the line of the Imperial Chinese and the Manchurian railroads, but I fear that they waited too long. January is a most advantageous time of the year for the spread of the disease, for thousands of coolies at that time are returning from Manchuria to the provinces of Chili, Shantung, etc., after having spent a summer and fall in earning their bread in the wheat fields or lumber forests of Manchuria, and also because it is just about the time of the Chinese New Year, when every Chinaman who can returns to his home for the festive season.

But to get down to a few more specific data about this epidemic: 1. The disease started at Harbin. Up to January 24, 1911, about 1,500 Chinese and twenty-seven Europeans had died, of whom two were physicians and one an assistant. 2. The disease is met with, mostly, in the pneumonic and septicemic types. 3. Inoculation with Haffkine's antibubonic vaccines seems to be of considerable value as a prophylactic measure. 4. The administration of Yersin's serum in treatment does not seem to be of much value, although it should be said that it has not been given a full trial. If it were possible to take, say, forty or fifty cases and administer the serum to the patients and compare them with a like number that had not had the serum, we could say something more definite, but so far as I am able to learn this has not been done in this epidemic. 5. It has been conclusively shown that the disease, in the pneumonic form, is transmitted by the sputum and by contact with persons sick of the disease, and that the wearing of respirators is good prophylaxis. 6. The rat, or the rat flea, does not seem to have nearly as much to do with the spread of the pneumonic type of the disease as it has in epidemics of the bubonic type. 7. So far as I am aware this is the first definite epidemic of the pneumonic type of the bubonic plague. 8. The disease spread along the line of railway traffic from Harbin to Mukden, to Shanhaikwan, to Tientsin and to Pekin and to several smaller places. It also got to Chefu, which is a seacoast town, probably through some Chinese coolies returning from the North in a Chinese junk or fishing boat.

Hopkins Hospital, Methodist Mission.

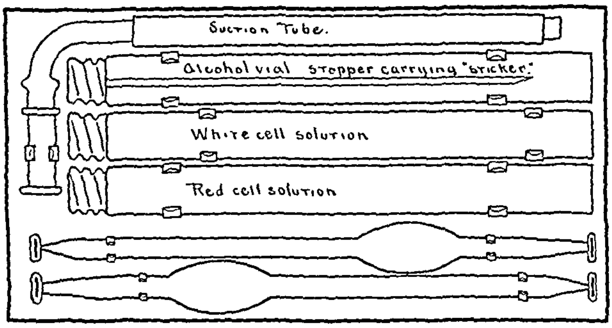
A HANDY POCKET CASE FOR BLOOD PIPETTES AND SOLUTIONS

WALTER S. SUTTON, M.D.
KANSAS CITY, MO.

The inconvenience of carrying about the usual blood-pipette case and separate solution bottles has resulted in many efforts on the part of pathologists, hospital interns and others to devise a convenient means of collecting and carrying pipettes and smears of blood. The device herewith figured meets all the requirements in perhaps the smallest possible space, since the entire outfit may be comfortably carried in the vest pocket. As is easily seen from the illustration, the set contains two pipettes, a 2-dram bottle of alcohol in the stopper of which is mounted a long cutting-edge needle, two

2-dram bottles containing diluting fluid for red and white cells respectively, and the usual rubber suction-tube. These are held in place on a thin metal plate by appropriate clips. The pipettes have in addition end-clips, each shod with a piece of soft rubber tubing, which, by pressing against the ends, prevent leakage from the filled pipettes. These, however, may be omitted in favor of short rubber caps for the pipette-ends, or of the time-honored rubber band stretched over the pipette from end to end. The straight portion of the suction-tube lies in a short piece of brass or copper tubing soldered to the metal plate.

I use two 1 to 100 pipettes, making either red or white counts with either pipette. Thus, the case will provide for two red-cell counts, two white-cell counts or one of each. Slides or cover-glasses for blood-smears are carried in the case simply wrapped in tissue-paper. The metal plate which carries the outfit is preferably fastened to the cover of the case, since the fastening prevents breakage and the low edges of the cover do not interfere with the removal of the pipettes or bottles from their places. The advantage of the clean needle continuously immersed in alcohol over the usual unclean pocket "sticker" need scarcely be mentioned. The actual size of the case is 4¾ by 2½ inches and the depth ⅝ inches.



Handy pocket case for blood pipettes and solutions.

Dr. F. Hecker has made the useful suggestion that if the depth of the case were slightly increased a Sahli hemoglobinometer might be added to the outfit.

PNEUMOCOCCEMIA; BILATERAL EMPYEMA; RECOVERY [*]

EDWARD A. ARONSON, M.D.
AND
HARRY OLSAN, M.D.
Adjunct Attending Physician at Mount Sinai Hospital;
Intern at Mount Sinai Hospital
NEW YORK

Patient.—M. D., a boy aged 4½ years, was admitted to Mount Sinai Hospital June 14, 1910. He was the second of four children. The mother had had no abortions; father denied syphilis; the other children were all healthy. The delivery of this child was normal; it was breast-fed, and always well up to time of its present illness.

Present Illness.—This began with an eruption four weeks before admission. This eruption was described by the father as a "red shine." At the onset there was fever but no vomiting. The duration of the fever was not noted, but the child appeared well enough two weeks later to be taken out and exposed to cold, which was followed by elevation of temperature, slight cough, generalized edema of the face and body and bloody urine. A physician, called in for the first time on the latter occasion, diagnosed the condition as postscarlatinal. The child did not improve and was admitted to the hospital two weeks later, June 14.

Examination.—On admission physical examination showed that the general condition of the child was very poor; there was marked apathy, and extreme dyspnea and cyanosis. In short, the child looked almost moribund. The throat showed slight reddening. The chest showed marked inspiratory retraction of the lower ribs.

Lungs: The lungs anteriorly were negative; posteriorly the right lung showed flatness over the entire chest almost to the apex; breathing was diminished above, absent below. On the left side there was dulness from the angle of the scapula to the base, where it became flatness; no breathing at the base.

Heart: The apex beat could not be made out; right border, mid-sternum; left border, one finger-breadth outside of nipple line; action was regular, rapid, and of small force, and the pulse was of correspondingly poor quality.

Abdomen: Slightly distended and tympanitic; no tenderness anywhere.

Liver: Fifth space above and felt three finger-breadths below the free border of the ribs; edge sharp and not tender.

Spleen: Palpable one finger-breadth below free border of ribs.

Skin: A few small pustules over the chest, and the abdomen was covered by a number of dry crusts. Desquamation was noted on palms of hands and soles of feet.

There was some glandular enlargement.

Urine: Normal, grossly and microscopically.

Blood-Count: Leukocytes 23,800; polynuclears 82 per cent.; large lymphocytes 5 per cent.; small lymphocytes 11 per cent.; large mononuclears 2 per cent.

At the time of admission the pulse was 128; respiration 58; and temperature 101.4 F.

A bilateral *empyema was suspected and then confirmed* by aspiration.

Treatment and Course of Disease.—On account of the patient's poor condition, it was decided to relieve him at once, at least temporarily, by aspirating the left chest; ten ounces of pus were withdrawn. This afforded him some relief but *four hours later, under local anesthesia, an intercostal incision* was *made by Dr. Leo B. Meyer*, the surgeon in charge of the service, and pus was evacuated; a drainage-tube was inserted, and the patient reacted well after the operation. The child's condition precluded any more radical procedure than simple incision.

June 17, two days later, the patient's condition became very poor again; the dyspnea increased and the temperature ran up to 104.2 F.; respiration 60 and pulse 160. The left side was discharging freely, but owing to his poor condition, we decided to resect a rib on the right side two fingers below the angle of the scapula. This was done without anesthesia, by Dr. Meyer. Drainage was introduced and the wound dressed.

June 18: Patient's condition improved; respirations less labored, and pulse still rapid. The patient did fairly well for the following ten days when the temperature began to rise again, although both sides were discharging freely.

June 1: General condition *poor; patient* complained of some pain in the right hypochondrium and some tenderness in this area. Wounds look clean and are discharging quite freely.

July 4: Temperature 103.6 F.; pulse 140; tenderness over the whole liver area, some bulging in the lateral aspect of the upper right abdomen.

July 6: On the fifth the temperature dropped from 103.8 to 97.4 F.; general condition very poor; heart irregular at times; quality of pulse fairly good; liver area remained about the same. There was a swelling in the right cheek directly over the superior maxilla, showing slight fluctuation.

July 8: The face swelling increased in size, and was incised through the mouth. A large amount of very foul pus was evacuated. This pus contained a large number of saprophytic bacteria. A blood-culture made showed the presence of pneumococci.

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[*] From the Isolation Service, Mount Sinai Hospital.

July 11: Owing to the frequent variation in temperature and the persistent tenderness in the right hypochondrium, the right subphrenic space was repeatedly aspirated, but no pus was found.

July 13: General condition somewhat worse; marked cyanosis and dyspnea noted; wound of the right cheek drained well. The lung signs showed dull tympany over the front of both lungs, some dulness and even flatness behind with numerous fine crepitant râles over the whole lung area. The heart was negative. The child was unable to sit up without apparent pain and difficulty in breathing. Lying on the right side caused the child to cry out and become markedly dyspneic and cyanotic. The liver was enlarged and tender, though somewhat less so than formerly. The bulging over the liver area was unchanged; spleen still palpable.

July 19: Until this time the child was in fair condition, but on this day the temperature rose again to 104 F.; this rise was due to retention of pus on the right side. The pus was evacuated and the wound drained.

July 27: A second blood-culture showed the absence of pneumococci.

July 29: Temperature rose on this date, due to retention of discharge.

August 1: Condition better; liver tenderness less marked; heart action rapid, regular, and fair. Dr. A. V. Moschcowitz was asked to see the patient on account of suspected subphrenic abscess. His opinion was that there was retention above the diaphragm, and he advised more complete drainage. This was done and the signs rapidly cleared up.

August 10: The condition of the wound on the right side was very much improved; probe could still be introduced for several inches; discharge was slight and of a serous character.

August 13: Discharge had entirely ceased; wounds closed; liver tenderness had disappeared and the child was discharged cured.

A study of the case shows the following facts: 1. The child had scarlet fever. 2. Two weeks after the onset of the first symptoms he was probably exposed to a pneumococcus infection. 3. On admission there was no evidence of pneumonia, but of a bilateral empyema. 4. A pneumococcemia was shown by a blood-culture taken on July 8. 5. There was a possible metastasis in the cheek. Recovery ensued.

We find that the presence of scarlet fever was shown by the history of a rash, and of a general edema, and by the desquamation of the hands and the soles of the feet on admission. Many authors make but casual mention of the occurrence of empyema after scarlet fever, although we do know that it may occur after any of the infectious diseases. While empyema is of frequent occurrence, bilateral empyema is rather rare and varies according to different authors. We can say, however, that it occurs in from 1 per cent. to 3 per cent. of all cases of empyema. The pus in empyema following scarlet fever most frequently contains the streptococcus or the staphylococcus, and less often the pneumococcus, which, if present, may follow as a result of a pneumonia complicating the scarlet fever. As to the pneumococcus infection, we have a history of probable exposure to the pneumococcus two weeks after the onset of the first symptoms. The patient may, at that time, have had a pneumococcus infection of the lung, of which on admission, two weeks later, there were absolutely no signs.

Endeavoring to account for the pneumococcus infection, we find that our patient was exposed two weeks after the onset of the scarlatinal symptoms. We know that the pneumococcus inhabits the normal throat. Taking into consideration the diminished resistance of the child following scarlet fever, plus these pneumococci, (which, as Arnold and Grawitz have shown, can pass through the lung tissue and into the pleural cavity without infecting the lungs), plus a hydrothorax accompanying the general edema, we can perhaps conclude that the pneumococcus empyema possibly followed such an infection.

Desguin, in his excellent monograph,[1] says that a pneumococcus infection of whatever part of the body is always accompanied by a pneumococcemia. He states further that the pneumococcemia may precede the appearance of a local lesion. As the presence of the pneumococcus in the blood is not a normal condition, in our case the micro-organism may have entered the blood from the congested throat usually seen in scarlet fever. From this it may also be possible that the empyema was secondary to the pneumococcemia. We must not lose sight, however, of the fact that there may have been a preceding pneumococcus pneumonia followed by empyema, although from the history and the signs on admission this could not be positively determined. The empyema was confirmed by the aspiration of pus from both sides of the chest, each of which showed the presence of pneumococci as reported by the pathologic department: Pus from left chest: pneumococcus, polynuclears 100 per cent.; pus from right chest: pneumococcus, polynuclears 97 per cent., lymphocytes 3 per cent.

The first blood-culture also showed the pneumococcus as seen from the following report: Culture made by Dr. Olsan July 8, 1910, 5 c.c. of blood being used. This blood was incubated partly in glucose-bouillon, partly in agar, and partly in 2 per cent. glucose-agar. In all the media pneumococci were found, there being on solid media seven colonies to the cubic centimeter of blood. The organism was typical in every respect. This culture was found positive six weeks after probable infection, which is an unusually long time for a pneumococcemia to persist, according to Desguin. A second blood-culture was made by Dr. Celler July 22, 1910, 5 c.c. of blood being used. This was incubated in glucose-bouillon, in agar, and in glucose-agar. All the media remained sterile, the time of observation being six days.

At the time the face induration appeared pneumococci were still probably present in the blood, and although pneumococci were not recovered from the pus evacuated from the swelling, owing to exuberant growth of saprophytic bacteria, there is a strong likelihood that this focus can be considered a metastasis. Two weeks after the first culture was made, a second was taken and found to be negative. At the time the general condition of the boy improved considerably, and although at times there was a tendency for the temperature to rise again it was always found to be due to slight retention of pus. Dr. Meyer in his comment on the case says, that from the surgical standpoint the method of treating a bilateral empyema is of interest, especially if the patient is in as bad a condition as this one was. To have opened the two sides of the chest at the same time would probably have been fatal. Incision and drainage of one side so as to give the child some lung with which to breathe, and to permit some lung expansion on one side before opening the other, seems to be the best method of procedure. If the child's condition had not been so desperate, rib resection would have been performed at the first operation, but the first consideration was to get the chest opened and drained and the child removed alive from the operating-table.

As a matter of fact, in young infants, intercostal incision is frequently sufficient and is certainly worthy of a trial as being the simpler operation. In this case drainage was as satisfactory from simple incision as from the site where the resection was done. Up to this time, three months after discharge from the hospital, the boy has remained entirely well.

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[1] Desguin: La septicémie à pneumocoques, 1908.

FRACTURE OF THE CLAVICLE

ITS DIAGNOSIS BY TRANSMISSION OF RESPIRATORY SOUNDS *

SEWARD ERDMAN, M.D.
Adjunct Assistant Surgeon to Bellevue Hospital; Assistant Attending Surgeon to Lincoln Hospital
NEW YORK

In a paper, read before The Society of Practical Medicine in May, 1907, entitled, "Diagnosis of Fracture of the Clavicle by Auscultation of Voice and Breath Sounds," I called attention to the fact that in normal individuals there is distinct transmission of both voice and breath sounds probably from the trachea, outward along the shaft of the clavicle to its outer extremity.

When a small-belled stethoscope is accurately applied to the outer extremity of the clavicle, breath sounds and voice sounds of a distinctly bronchial or tracheal quality are to be heard.

In a series of over 300 normal persons thus tested, it appeared that the whispered voice was the most reliable test and that in over 95 per cent. of all the cases a more or less intensely bronchial whisper could be heard over the acromial end of the clavicle.

In over two-thirds of the cases the spoken voice as well as the whisper was of this quality, and audible. In about one-third of the cases the respiratory murmur was distinctly audible and of this bronchial character, in addition to the spoken and whispered voice.

It was also noted that the transmission of these sounds was limited very strictly to the area over the shaft and outer extremity of the clavicle, and that if the stethoscope were moved even one-half inch forward, or outward, or backward, away from the clavicle, the sound transmissions were lost or so completely modified as to offer a clear demarcation.

Conclusions: Granted that there exists normally a transmission of voice sounds from the trachea outward along the clavicle, a fracture of the bone should cause a break in sound propagation; and such is found to be the case.

In the series of fifteen cases reported at that time, the results were most striking, for, in all these cases of fracture, there was complete loss of these auscultatory signs on the injured side, in contrast to their presence on the normal clavicle. In one case of green-stick fracture, the intensity of the sounds was very much diminished although they were not entirely lost.

As bony union takes place, there is a gradual return of these signs, but this does not seem to occur until after the fourth week from the time of fracture.

In cases of prominence of the inner fragment of the clavicle, it is often very easy to place the stethoscope over this fragment and to recognize clearly the sounds which no longer are audible over the outer fragment.

TRANSMISSION OF FREMITUS

Since writing the above-cited paper, I have made use of a still simpler method, based on the same principles, but dependent on the fact that vocal "fremitus" is likewise transmitted along the clavicle unless there be a break in the continuity of the bone.

Whereas the diagnosis with the stethoscope as above mentioned can usually be made, nevertheless there are a number of patients, especially children, who apparently cannot whisper and thus the test is rendered unsatisfactory; or there is difficulty in applying the stethoscope.

On the other hand, the recognition of vocal fremitus by the palpating finger is more easily attained and even the cries of the youngest child afford means for this test.

METHOD

The examiner stands directly behind the patient, who should best be seated on a plain stool or chair. Place the thumb or index-finger of each hand on the corresponding clavicle of the patient, and without pressure.

Commencing near the sternal end of the shaft of the clavicle gradually move the examining fingers symmetrically outward along the clavicles while the patient repeats some sonorous words, e. g.: "ninety-nine, ninety-nine, etc."

In the absence of a fracture the palpable fremitus will be easily detected and of equal intensity on the two sides, all the way out to the extreme end of the bone.

If there be a complete fracture, the fremitus is suddenly lost or very greatly lessened at the point of fracture and beyond. So delicately may this sign be elicited that it is often possible to follow accurately the obliquity of the line across the shaft at the point of fracture.

The normal fremitus of the whole scapular region and chest is very different in intensity and is easily distinguishable.

VALUE OF THE METHOD

In many cases of fracture of the clavicle, inspection alone, or the most superficial palpation, reveals without difficulty the presence and the site of the break, and no further examination is necessary; but for the above method I claim the ease with which the signs are to be elicited, the freedom from painful palpation of the fractured bone, and its great value as an aid in the diagnosis of the cases in which the fracture is in the outer end or in the shaft without deformity, and in all doubtful cases.

LITERATURE

Auscultation to elicit crepitus at the site of fracture has long been in use, especially for fracture of the ribs; but in 1893, Vajana[1] of Palermo described a method for diagnosis of fractures of many of the long bones and bones of the skull by combined percussion and auscultation.

The stethoscope is placed on a subcutaneous portion of the bone and, with the plexor and pleximeter, percussion is now made at points along the bone in all directions from the stethoscope, and when a line of fracture is crossed there is loss of the sound transmission.

In 1902, J. Plesch[2] of Budapest, described the same method as original, having doubtless overlooked Vajana's communication.

A. H. Andrews[3] suggests the use of the tuning-fork instead of the plexor and pleximeter.

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* Comunication received July, 1910, for publication.

[1] Riforma med., June, 1893, ix, part 2, p. 651.
[2] Ungar. med. Presse, August, 1902, vii, 497.
[3] Chicago Med. Recorder, 1903, xxiv, 182, 185.

However, in the case of the clavicle, neither percussion nor tuning-fork is necessary, for the vocal and respiratory organs by way of the trachea, which is so close to the inner end of the clavicle, furnish all needed vibrations for our test, and, moreover, these are transmitted in a uniform direction, outward.

32 East Seventy-Sixth Street.

TUMOR IMPLANTATIONS IN THE DEVELOPING EMBRYO

EXPERIMENTS WITH A TRANSMISSIBLE SARCOMA OF THE FOWL*

PEYTON ROUS, M.D., AND JAMES B. MURPHY, M.D.
NEW YORK

The fate of tumor cells implanted in the developing embryo has from several points of view a considerable interest. The superficial similarity between neoplastic cells and the cells of embryonic tissue is striking; and it has given rise in part to a widely discussed theory of tumor origin. While this theory well explains a certain class of congenital growths, its more general applicability is questionable. But there is no doubt that the parallel study of embryonic and neoplastic cells can throw much light on important problems of growth.

MATERIAL USED

The implantation of tumor in developing embryos does not seem to have been accomplished heretofore, despite the evident bearing of such an experiment on the supposition that all tumors are of congenital origin. Indeed, it is most difficult with mammalian material, although we have found it not impossible. After laparotomy of the pregnant rat under ether, a fine, hollow needle is run for some distance in the uterine wall, and thence into the amniotic sac and embryo. When the needle is withdrawn after the injection, there is usually little loss of amniotic fluid. But the percentage of failures from one cause and another is high, and since it is necessary for the survival of the injected embryo that it be large, birth takes place before the tumor has opportunity to grow.

The difficulties are less with developing hen's eggs and a transmissible avian sarcoma.[1] But before describing our results mention should be made of a unique and significant finding recently obtained with this tumor, and now repeatedly observed. It is transmissible to new hosts by means of a filtrate free of the tumor cells.[2] The tumor has also been successfully transmitted in adult fowls by means of dried material kept at room temperature for three days. Nevertheless the growth metastasizes by the proliferation of transported cells and its tissue is in the strict sense transplantable.[3] Indeed, it exhibits to a special degree, not merely a few, but all those features by which the malignant neoplasms are characterized.

METHOD

For the inoculation of the sarcoma into developing chick-embryos, we have slightly modified a method devised by Peebles[4] for another purpose. A small window is cut in the egg-shell, a smaller one torn in the shell membrane, and through a needle a minute portion of the finely divided tumor is injected into the chick, now plainly visible. The window in the shell is then closed, preferably with the piece first cut out, and is sealed with strips of moist shell membrane.

When the operation is conducted carefully and with sterile instruments, many of the embryos continue to develop. The eggs used were laid by pure-bred fowls of the variety most susceptible as hosts for the tumor, namely, barred Plymouth Rocks. At the time of inoculation, the embryos were from six to sixteen days old. Most of our observations thus far have been on tumors in the embryonic membranes, because here even small growths are sharply defined and easily accessible. Furthermore, it is difficult to inoculate the embryo without at the same time inoculating the membranes pierced by the needle.

GROWTH IN THE EMBRYO

When an egg is opened on the sixteenth day of incubation, and a week after a successful tumor inoculation, one observes a slight puckering and opacity where the needle was thrust through the outermost embryonic membrane (fused chorion and allantois). From without no tumor is visible, but on cutting and turning over the membrane, there is usually found on its inner surface at the scarred spot, a sessile nodule like a flattened sphere, of which practically the whole bulk projects into the allantoid cavity. The mass is firm, yellowish or grayish white, nearly opaque, with extremely well-defined contour. Dilated blood-vessels converge to, and course over it. The tumor, after only seven days' growth, may measure 1.2 cm. in diameter, and it is extremely striking to see so large a mass dependent on a filmy membrane for support and vascularization. Scattered near by are perhaps a few small nodules, 0.1 to 0.2 cm. broad, and sometimes others lie in the deeper membranes. In the embryo tumor masses are found along the track of the needle. Our observations on them have been few as yet. In the best instance found thus far—that of a nineteen-day embryo inoculated a week previously—a large mass lay in the chest wall and projected inward toward the heart. Sessile on this organ was another mass, and two smaller ones were embedded in the liver substance. All were invading the surrounding tissue.

We have once found a "rice-body" free in the fluid between the membranes. It was made up entirely of living and dividing tumor-cells, was unprovided with blood-vessels, and was quite bare of endodermal or ectodermal covering.

GROWTH CAUSED BY A CELL-FREE FILTRATE

Some Ringer's solution in which ground tumor had been suspended and shaken, was passed through a Berkefeld filter impermeable, under the same conditions, to *Bacillus prodigiosus*, and of the resulting fluid, small portions were injected into developing eggs. In one, after the lapse of thirteen days, small, discrete tumor nodules were found on the membranes. A microscopic examination of these well demonstrated the specific action on connective tissue of the agent causing the growth. The fluid had been injected into an extra-embryonic body cavity at a time when it was lined by mesoderm, and the tumors occurred as localized growths in this mesodermal lining. Some of them, like the mesoderm about them, were still bare of any covering on one side. During our experiments the ectoderm and endoderm have been often injured and presumably brought into association with the agent causing the growth, but they have never undergone a neoplastic change.

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* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

[1] Rous: Jour. Exper. Med., 1910, xii, 696.

[2] Rous: Transmission of a Malignant New Growth by Means of a Cell-Free Filtrate, THE JOURNAL A. M. A., Jan. 21, 1911, p. 198.

[3] Rous: Metastasis and Tumor Immunity with a Transmissible Avian Neoplasm, THE JOURNAL A. M. A., Nov. 19, 1910, p. 1805.

[4] Peebles, F.: Arch. f. Entwcklugsmechn., 1908, vii, 405

HISTOLOGY OF THE GROWTHS

The tumors obtained on implantation resemble microscopically those in adult fowls except that the cells lie in a loose reticulum and are often of most attenuated spindle form. Slight variations occur in the morphology of the different growths, owing presumably to variations in the implanted material. But the cells are of one type, growing in a diffuse mass; and a cellular reaction is quite absent from the normal tissue round about. In general appearance the tumor cells are markedly different from those of the normal embryonic connective tissue next to them.

SUSCEPTIBILITY OF THE EMBRYO

Some embryos are naturally resistant, as are some adult fowls, and tumor implantation in them fails of success; but in most, the growth greatly surpasses that seen in adult hosts. This refers only to tumors in the embryo's membranes, since the implantations in the embryo's body have been as yet too few for a generalization. But there the findings will probably be the same. It is well known that young animals form more favorable hosts for transmissible tumors than do old. One of us has recently investigated the point further by inoculating with tumor many new-born rats and mice. These showed themselves much more susceptible than control animals three-fourths grown.

Sixty-Sixth Street and Avenue A.

PRIMARY ORCHITIS WITH SECONDARY PAROTITIS

THE REVERSE OF METASTATIC MUMPS

J. F. TORPEY, M.D.
NEW HAMPTON, IA.

The case in question is that of a young man, aged 18, in high school.

Dec. 3, 1910, the patient was found in bed with temperature 101 F., pulse 90, complaining of pain and tenderness in the left testicle. I questioned him as to his having had mumps recently, the disease being prevalent at this time. He denied ever having had mumps, lues, gonorrhea, tuberculosis or having received any injury, and could not in any way account for his present trouble.

On examination, I found the left testicle very tender, quite tense, and swollen to about twice its normal size, with no evidence of the usual causes of this condition. My opinion at the time was that the patient must have had a mild attack of mumps, and that his present condition was the sequel. On the usual line of treatment he seemed to improve. Six days afterward the right testicle became swollen, much the same as the left one had been. This condition lasted for seven days, and the patient was feeling pretty well when he noticed a slight swelling below each ear, in the angle of the jaws, accompanied by considerable pain. The parotid glands became very much swollen, and the patient developed a classical case of mumps.

When I last saw him sixty days after the first symptom of orchitis appeared the testicles were nearly normal. Although he wore a suspensory, he felt that he could dispense with it.

Having excluded, so far as I knew, the ordinary causes of orchitis, with one testicle involved at a time, and the parotid glands becoming involved so soon after the orchitis, I arrived at the conclusion that the order of metastasis in mumps had been reversed in this case.

I have not been able to find a parallel case.

THE STIMULATION OF ADRENAL SECRETION BY EMOTIONAL EXCITEMENT*

W. B. CANNON, M.D., and D. DE LA PAZ
BOSTON

Dreyer's demonstration that splanchnic stimulation increased the content of epinephrin in blood from the adrenal veins has been confirmed by several observers Adrenal secretion therefore is under control of the sympathetic system.

Major emotional disturbances indicate the dominance of sympathetic impulses. In the cat, for example, fright causes dilatation of the pupils, inhibition of the stomach and intestines, rapid heart, and erection of the hairs of the back and tail. Do not the adrenal glands share in this wide-spread subjugation of the viscera to sympathetic control?

To try this suggestion the inhibition of contraction in strips of longitudinal intestinal muscle, sensitive to epinephrin 1 to 20,000,000, was used as a biologic test Blood was obtained from the cat when quiet, and *again* after the animal was excited by the presence of a barking dog, by introducing, through the femoral vein, into the inferior vena cava to the region of the liver, a small catheter lubricated with petrolatum. The blood thus obtained was defibrinated and applied to the intestinal strip at body temperature.

After an initial shortening the strip contracted rhythmically in blood from a quiet animal. In no instance did such blood produce inhibition. On the other hand, blood taken from animals after the emotional disturbance showed more or less promptly the typical relaxing effect. As the emotional period was prolonged, the effect became prompter and more profound.

The view that inhibition of the contracting intestinal strip is due to an increased epinephrin content is justified for the following reasons: 1. The effect was obtained in blood from the vena cava near the liver when that from the femoral vein taken simultaneously produced no inhibition. 2. Removal of the adrenal glands after tying the adrenal vessels resulted in a failure of excitement to produce the effect. 3. Adding varying amounts of adrenalin to inactive blood evoked all the degrees of relaxation that have been observed in excited blood. 4. Excited blood which produced prompt inhibition lost that power on standing or on being agitated by bubbling oxygen. These conditions, together with the evidence that sympathetic impulses increase the secretion of the adrenal glands, and that during such emotional excitement as was here employed signs of sympathetic discharges were observable in the animal from the eye to the tip of the tail, prove that the epinephrin effect was due to epinephrin.

Injected epinephrin is capable of inducing an atheromatous condition of the arterial wall in rabbits, especially in elderly individuals, and is also capable of evoking hyperglycemia with glycosuria. As Ascher has shown, by prolonged stimulation of the splanchnic nerves, prolonged secretion of epinephrin with maintained high blood-pressure can be produced. In the light of the results here reported the temptation is strong to suggest that some phases of these pathologic states are associated with the strenuous and exciting character of modern life acting through the adrenal glands. This suggestion, however, must be put to experimental test.

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* From the Laboratory of Physiology in the Harvard Medical School.

REPORT OF A CASE OF PARALYSIS OF THE BLADDER

ILLUSTRATING THE IMPORTANCE OF CATHETERIZATION BEFORE OPERATION

H. J. RELIHAN, M.D., AND J. SIMON, M.D.
SANBORN, IOWA

In this case of paralysis of the bladder the patient was operated on under the diagnosis of ovarian cyst with twisted pedicle complicated by pelvic infection. The condition followed normal labor and delivery, and shows the importance of catheterization before operation.

Patient.—Married woman, aged 30, mother of three normal children; previous history negative; in the second stage of labor when first seen. A normal living child was delivered without the use of forceps and without laceration of the mother's tissues. Delivery of the placenta was normal. For the first six days after delivery the patient's condition was normal. On the sixth day, the uterus was six finger's-breadths above the pubis. The urine was examined and found normal. The patient felt well. On the seventh day, the temperature was 102 F., and pulse was 120. The patient complained of great abdominal pain, more especially on the right side. The abdomen at this time began to distend rapidly and in size simulated a six-months' pregnancy. The bowels were regular and a normal amount of urine was being passed though there was some irritability of the bladder. On the eighth day, the temperature was 103 F. and the pulse 140 and poor in quality. All the symptoms pointed to puerperal sepsis except the distention of the abdomen, especially the lower part. Pain at this time was only controlled by administration of ¼ grain of morphin sulphate as necessary. By this time the size of the abdomen resembled a full term pregnancy.

Examination.—This showed great abdominal distention, especially in the lower portion. Percussion showed a cyst or watery tumor in the median line, especially in the pelvis. It seemed to be of great size and a diagnosis was made of ovarian cyst with twisted pedicle accompanied by pelvic infection, and immediate operation was advised.

Blood Examination: White cells, 18,000; red cells, 5,000,000; hemoglobin, 90 per cent. Differential count showed: small mononuclears, 18 per cent.; large mononuclears, 6 per cent.; eosinophils 2 per cent.; polymorphonuclears, 74 per cent.

Urine Examination: The urine was being passed every two to four hours in quantities of from 4 to 6 ounces. The reaction was alkaline. Otherwise it was normal.

Operation.—As the patient had been passing urine at regular intervals and had passed eight ounces just before the operation it was not thought necessary to catheterize her. An incision about 4 inches long was made in the median line. A large blue, thin-walled tumor presented which resembled in every way a cyst of ordinary character. A trocar was inserted and 3 gallons of urine were withdrawn. The fact that the tumor was not a cyst but the bladder was not recognized til lthe urine escaped through the trocar. The viscus was closed with No. 2 Chromic catgut, great care being exercised not to injure the mucosa. The abdominal incision was closed in the usual way and both wounds healed by primary union.

Postoperative History.—The ordinary treatment in any postoperative case was carried out, plus, of course, treatment of bladder symptoms. There was no complaint of pain. The patient was catheterized three hours after the operation and three times a day thereafter, the strictest antiseptic precautions being observed each time. After the fourth day, after the last catheterization of the day, a few drops of silver nitrate solution were left in the urethra. Hexamethylenamin (urotropin) was given regularly. On the fifth day as often happens after repeated catheterization, the bladder became infected. The patient had chills and the temperature rose from normal to 103 F.; the pulse was 138. The kidneys also became infected. Analysis of the urine showed: color, dark cloudy; specific gravity, 1026; sugar, negative; albumin, negative; indican, present; bile, negative. Microscopic examination showed many motile bacteria, numerous crystals (calcium oxalate), granular casts and blood-cells. There was also excess of mucous and triple phosphates. By the twelfth day the patient was in excellent condition and she was discharged well on the eighteenth day.

A CASE OF ENTERITIS FROM TRICHOCEPHALUS DISPAR

B. N. WADE, M.D.
CHICAGO

Patient.—An Austrian woman, aged 22, entered the Cook County hospital suffering from an intractable anemia and it was not until after her stools had been examined that the etiologic factor was discovered. She had lived in Boston until four months prior to admission. She had worked as a laundress; never used alcoholics; food was of poor quality; she ate in cheap restaurants. Fourteen months prior to admission the patient began to lose strength, and finally had to quit work; suffered with severe headaches, which were always in the occipital region. Her appetite was poor, and eating would nauseate her, and often caused vomiting, but she never vomited blood; had not vomited or even been nauseated for several months; the bowels had always been regular. The patient had had a slight bronchitis ever since the trouble began; had never been troubled with fainting spells or palpitation, although at times she became very weak and dizzy; on exertion, she would become short of breath. The patient had lost 50 pounds in weight. When the trouble first came on, the patient suffered a great deal from epistaxis, but had never lost any great amount of blood from this source; had complete amenorrhea since the beginning of the illness and during the time of the menstrual periods would often have nose-bleed. Previous to this the menstruation was normal. The patient stated that the muscles in her arms had pained ever since she took sick, and they were somewhat tender, and became stiff on exercising them. This myalgia was most severe at night. The patient also complained of a dull aching pain in the abdomen, especially in the splenic region, and said that it was always present; there was a drowsy feeling all the time. The patient had never felt this way until this trouble came on.

Physical Examination.—The patient appeared languid and apathetic; was pale and anemic; pulse and temperature were normal. The tongue was coated white, and the breath exceedingly foul. The chest and cardiovascular system were negative. There was some tenderness in the left epigastric region and over the descending colon; liver and spleen normal. On vaginal examination, there was extreme tenderness in the posterior fornix; rectum was somewhat tender. The stools were foul-smelling, greenish in color and watery in consistency. They contained many ova of the *Trichocephalus dispar*, which were of the characteristic brown oval forms with clear polar bodies. Each field contained four or five ova. After repeated examinations, the parasites themselves were found but once. There was no occult blood in the stools; small particles of undigested foods were present and mucus was also present to some extent.

Blood Examination.—Red cells, 3,100,000 per c.mm.; leukocytes, 8,300 per c.mm.; hemoglobin, 80 per cent. The differential count showed an eosinophilia of 10 per cent.; the other cells were present in about normal percentage.

The urine showed the presence of indican; otherwise it was normal. The stomach contents were also normal.

Treatment.—Two weeks after the patient was put on thymol, gr. 2, t. i. d., the ova completely disappeared from the stools. The bowels were kept open with calomel and Epsom salts, and an occasional colonic flushing was also given. The anemia was disappearing under the use of Fowler's solution and elixir, iron, quinin and strychnin.

My reasons for reporting this case are, first, to emphasize the importance of examination of the stools as a routine procedure, and especially in cases of anemia when no cause is evident; and second, because this is a disease which is either infrequent in this section, or one which is commonly overlooked.

Therapeutics

THE PROPHYLAXIS OF MEASLES

It is difficult to find either a physician or a layman to-day who has the temerity to expose a healthy child to contact with one who is suffering from scarlet fever, with the avowed object of infecting the healthy child. With measles it is different. Not a few non-professional people are inclined to advise, and even take pains to expose healthy children to infection from patients suffering from measles with the hope that the healthy children may contract the disease.

The circumstances connected with the two diseases are somewhat different. Scarlet fever, as has been pointed out in THE JOURNAL, is a disease to which not all persons are susceptible, a considerable number enjoying either an absolute immunity because they never contract the disease, or an immunity because they have already passed through the disease in so mild a form that it has not been recognized. Measles, on the other hand, is a disease to which practically every individual who has not already suffered an attack is susceptible. It is one of the most contagious of all diseases, ranking in this respect with small-pox and typhus (the genuine typhus, not typhoid) or ship fever.

It seems almost invariably true that one attack of the disease protects against subsequent attacks, though most writers teach that a second, third, and even fourth attack are not uncommon. It is probable that when these repeated attacks are alleged to have occurred, some of them at least were other cutaneous infectious diseases, especially so-called German measles, or some eruptive but non-contagious disease.

Many cases might be cited illustrative of these points, but only two or three will be mentioned here. The famous epidemic reported by Dr. Panum, the Danish physician, in the *Archives générales de médecine,* April, 1851, has been mentioned by numerous writers from Watson to Osler. This epidemic occurred in the Faröe Islands, in 1846. No measles had been known in this group of seventeen small islands since 1781 until on March 28, 1846, the disease was introduced by a man who had come from Copenhagen. In October of the same year the disease had entirely disappeared, and during the interval which had elapsed, of 7,782 inhabitants of the islands, 6,000 had had the disease; 1,500 persons who had established quarantine against the disease escaped.

In 1875, it is reported that measles was carried by a ship of the British navy from Sydney to the Fiji Islands, and in the succeeding epidemic 40,000 out of the 150,000 inhabitants died in four months. This shows the terrible severity of the disease in people who have no hereditary partial immunity.

In the Civil War, a large number of soldiers had measles, and many died from it. This disease occurred more frequently in the regiments which were recruited in the country towns than in those which were recruited in the large cities, this being explained by the fact that in country towns epidemics occur at longer intervals, so that a large number of boys reach manhood without having had the disease, while in the large cities epidemics are frequent and few boys grow to manhood without having experienced it.

These instances show that practically everyone is susceptible to measles until he has had it, and that an attack in adult life is generally more severe than in childhood.

Taking these facts into account one may well question first, whether it is possible entirely to prevent epidemics of measles; and second, whether, if it is possible to prevent them, it is desirable to do so?

On the other hand, it has been observed that children under six months of age are less likely to take this disease than older children, and that extremely old people are also less susceptible. Also, it seems to be a fact that the disease is most disastrous in its effects on infants, on children who have scrofulous glands, on persons who are tuberculous, or who have any tendency to tuberculosis, on individuals who are debilitated from any cause, and on women who are pregnant or who have recently been confined.

The above being true, it certainly can be reasonably asserted that the effort should be made to isolate children who are suffering from measles in order to prevent the spread of the disease, at least to people in whom an attack of the disease is likely to be followed by disastrous results. The details which should be carried out in order to accomplish this are not very different from those applicable to the prevention of scarlet fever, as given in THE JOURNAL, March 4, p. 667.

The contagious element of measles appears to have less vitality and to resist the ordinary measures of disinfection, including sunlight and fresh air, much less strongly than does the contagium of scarlet fever. The contagion of measles seems to exist very extensively in the secretions from the nose, throat and mouth, and the disease seems to be especially contagious during the period when the catarrhal symptoms are manifest, but before the cutaneous eruption appears. This increases the difficulty of enforcing efficient quarantine, for ordinarily, before the eruption appears, the child is believed to be suffering merely from a cold, and by the time the eruption appears and the quarantine is enforced many children have been exposed to the disease. When the disease is prevalent, children who show symptoms of a cold in the head should be suspected of perhaps having measles and should be promptly quarantined, but at the beginning of an epidemic it is rare that a child will be placed in quarantine before the eruption has appeared.

The general rule that well children should be kept apart from sick children is not usually followed with reference to children who are suffering from catarrhal affections of the nose and throat. When the rule is extended so as to apply to these patients, both whooping-cough and measles will be less rapidly passed around among the children.

The measures enumerated as applicable to scarlet fever and which are also applicable in cases of measles may be briefly summarized as follows:

The isolation of the patient in a remote room of the house.

The selection of a single immune person to care for the patient.

The wearing by the physician of a linen or rubber coat, when he visits the patient, which is removed outside of the patient's door.

The destruction of books and toys, which have been used by the patient, at the end of the period of quarantine.

The disinfection of dishes and clothing before they are removed from the sickroom.

At the end of the period of quarantine, which in the case of measles unattended by complications should be three weeks, the bathing and shampooing of the patient, and dressing him in fresh clothes.

The disinfection of the room, after it has been vacated, by the vapor of formaldehyd and by exposure of the room so far as possible to fresh air and sunshine.

The carrying out of these rules is a duty which every head of a family owes to the community, and especially to his neighbors who are at either extreme of life, or who are in delicate health. Such preventive measures should be enforced not only by the physician, but also by the sanitary authorities of the town.

As has just been said, sunshine and light are essential to the killing of the germs of all disease, and especially of measles; hence the room of a patient suffering from measles *should only rarely be kept dark during the day.* The patient's eyes may be efficiently protected from light by blue or smoked glasses.

The prolonged cough of measles after the period of quarantine is over should be treated as though the patient had incipient tuberculosis, and then the number of secondary deaths from measles will be cut in half.

OXYURIS VERMICULARIS: PIN-WORMS

The pin-worm, thread-worm, or seat-worm, as it is commonly known, is the most frequent intestinal parasite of man. It occurs frequently in children, but is also found in adults, in whom it may continue to cause the most annoying symptoms for a prolonged period.

The most common symptom is itching about the anus, which is due to the presence of the worm in this locality. It may, however, migrate to adjacent parts, causing also pruritus vulvæ which in turn may lead to masturbation. This itching comes on in the evening or at night after the patient has retired. It frequently causes restlessness and disturbance of sleep. It may interfere with the appetite and nutrition of the patient, causing anemia and emaciation. Less often it produces more serious nervous disturbances, and rarely even convulsions.

The male worm is smaller in size than the female, the latter being about three-quarters of an inch in length, and the male about one-fifth of an inch.

The eggs are taken into the mouth with the food or from the fingers which may become infected during the scratching caused by the itching. Passing into the stomach, the eggs hatch out and the worms develop and pass into the small intestine, and from there into the large intestine and rectum, where the female deposits its eggs in immense numbers, frequently passing out from the rectum to the anus for this purpose.

The treatment should be internal, local, and general. The internal treatment should be directed toward removing the parasite from the intestinal canal as rapidly as possible. For this purpose magnesium sulphate is perhaps the simplest remedy, and it is usually efficient. Calomel is preferred by some, and should be given in a good sized dose, as, for instance, 5 grains for an adult. Santonin has been recommended, but on account of its toxic effects should not be employed, except in obstinate cases.

The local treatment consists of rectal injections of various sorts. Water is very destructive to both the worms and the eggs, and in many cases copious injections of water are all that is necessary to effect a cure. Commonly recommended are infusions or decoctions of quassia, made by steeping one ounce of quassia, powdered or in chips, in one pint of hot water. When this has become cooled to the temperature of the body, a portion of it may be injected into the rectum and retained, if possible, for from ten minutes to half an hour. In many cases injections of warm soapsuds have proved efficacious. In cases which resist these remedies, a solution of the corrosive chlorid of mercury of the strength of 1 to 10,000 may be used. In using these injections it is necessary to inject as large an amount as can be retained with comfort. Young children cannot usually be expected to retain more than from 2 to 4 ounces. Adults can frequently readily retain from half a pint to a pint, especially if the hips are raised; or the patient may be given a colon wash. The larger injections are desirable in order to distend the rectum thoroughly and to remove the mucus in which the worms find an agreeable habitat.

If the itching and scratching about the anus have resulted in congestion and thickening of the skin, the subsequent itching may be irrespective of the presence of the parasite. For this condition the official unguentum phenolis (a 3-per cent. ointment of phenol) may be employed with benefit.

As the persistence of the parasite in the intestine is favored by an unhealthy condition of the mucous membrane, general treatment should be directed toward restoring the intestinal canal to a healthy condition.

The prophylactic treatment, which is of considerable importance, embraces frequent bathing of the parts with soap and water, thorough washing of the hands after they have been used in scratching or other manipulations, and boiling of the clothing and bed-clothing to destroy any eggs which may be deposited on them. The treatment with enemata should be repeated daily until the trouble is thoroughly removed. This can be definitely determined by microscopic examination of the feces, which should show entire absence of the ova.

Before the treatment of the individual patient is complete, inquiry should be made in regard to the presence of the parasites in other members of the family, including not only the children and parents, but also nurses and other attendants.

Essentials of the Campaign Against Tuberculosis.—Stating that tuberculosis is "a disgrace to our civilization," in a recent address Ex-Governor Charles E. Hughes of New York, now a justice of the Supreme Court of the United States, outlined the essentials of the work against tuberculosis. He said: "Here is a chance for the cooperation of all, no matter what their political views may be, no matter what their theories of government may be. I recognize the necessary limitations of governmental action. And here, not only must we have the action of government within its proper sphere, but this must be supplemented by the cooperation of those voluntary agencies which work outside the domain of government. Necessary information can be brought home to those who are in unfortunate circumstances which are remediable, so that they may know that the conditions may be a little less unfortunate by attention to a few simple rules with regard to hygiene and the proper ordering of life and its surroundings. Those who house other people and profess to have some patriotic pride in our institutions, can more clearly realize what they should do in the interest of the entire community in providing decent abodes for those from whom they take rent. Local authorities in our cities must appreciate the importance of securing prompt and full information in regard to cases and the faithful execution of our health laws so that this shall not be a paper program, but a realized advancement. In our counties the boards of supervisors are having opportunity, and should realize the necessity of improving conditions. This work must find its support in the sentiment of our communities. You cannot carry it by main strength against the will of the people. The people must be brought to realize what can be done, what is practicable, and support it because they understand it. Every man and every woman who knows the situation can be a conductor of electrical energy and give this movement its needed power."

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SATURDAY, MARCH 11, 1911

INFECTION AND ANAPHYLAXIS

As a result of work on anaphylaxis, the belief is gaining ground that many of the toxic processes of infections are to be explained on this basis. Rosenau and Anderson,[1] among others, have shown that true anaphylaxis can be produced to bacteria as well as to other proteid-containing substances, and von Pirquet and Schick[2] some time since went so far as to conclude that "the pathogenic substance has *in itself no disease-producing effect*; but rather, the symptoms of disease appear only when changes effected in the pathogenic substance, by the host, have attained a certain degree." Needless to say, such infections as produce true toxins, as diphtheria and tetanus, do not come under consideration, and the theory is particularly applicable to those diseases in which we were formerly accustomed to assume the existence of bacterial endotoxins as the cause of the process. The essential difference from this latter view is the belief that the bacteria in themselves have little or no toxic effect; that this results from an interaction of bacterial proteid (antigen), antibody and complement, the two latter being contained in the serum of the host. In this way the assumption of specific bacterial toxins with every infection becomes unnecessary; and the failure to obtain antitoxins with so many microorganisms is readily explicable.

It is evident that the phenomena of an acute anaphylactic reaction—convulsions associated with air hunger—are rarely, if ever, those of an infection. But the much more gradual addition of the foreign material in the latter case affords a satisfactory explanation for this difference. Indeed, Friedberger,[3] by injecting sensitized animals with repeated small doses of the foreign proteid, was able to produce continuous and remittent and intermittent fevers, and he concludes that "anaphylaxis is an extreme and acute form of infection, and infection a milder, more protracted form of anaphylaxis."

Neufeld and Dold[4] *have taken up the problem of the* possible identity of bacteriolytic antibodies with those associated with the process of bacterial hypersensitization. In the case of the cholera vibrio, anaphylaxis occurred only when lysis of the organism by the immune serum was prevented by keeping the mixture of organism and sensitized serum at freezing temperature. When lysis was allowed to take place, the resulting mixture produced no acute toxic effects. With the pneumococcus, *on the other hand, there was no* bacteriolysis to be guarded against, and the anaphylactic reaction was obtained regardless of the temperature at which the mixture was kept. Solution of this organism by autolysis, or by chemical means, gave inactive mixtures. Hence it would appear not only that the antibodies associated with bacteriolysis and with anaphylaxis are distinct from each other, but that the one process places itself in direct opposition to the other. So that bacteriolysis acts to some extent as a protective measure against anaphylaxis; and in the case of a disease like *cholera, the clinical picture becomes the resultant* of two opposing forces—the bacteriolysis in part preventing acute anaphylactic intoxication, but meanwhile liberat*ing a noxious, but less acute endotoxin.*

It is of course obvious that diverse bacteria can produce similar clinical conditions depending largely on *the localization* of the infection. And the present theory, departing largely from the assumption of specific toxins for the different organisms, gives this an adequate explanation. The theory also explains nicely the incubation period of disease, as being the interval elapsing between the actual invasion by microorganisms and the formation of a sufficient quantity of antibody to produce the toxic effects resulting from the combination of antigen plus antibody.

SEX AND THE INSTRUCTION OF THE YOUNG

The attitude of the modern world toward the problem of sex, and especially of education in the hygiene and ethics of sex, seems an anomalous one. The subject has always been surrounded with mystery; but simpler and more primitive peoples find life full of mysteries, which they confront smiling and unabashed. We have few mysteries left to us; and the antiquated taboos which overshadow this one *appear scarcely sufficient to account* for the feeling, curiously compounded of dread, aversion and curiosity, which any discussion of the subject seems to arouse in most people to-day. The pagan world of antiquity frankly glorified sex, even in its sensual aspect; the asceticism of the middle ages rigorously condemned all aspects as sinful. The modern world professes to repudiate both doctrines; but the two seem to mingle in the ill-balanced and feverish sensitiveness on the subject often betrayed to-day, both in silence and in speech.

For a long time the outwardly predominating factor of asceticism has conspired with a host of shadowy, undefined motives to keep all enlightenment on the subject from the young with the same fearful zeal that guards a powder-magazine from sparks. Experience and observation have taught, however, that the dreaded explosive force in humanity is not, like the powder, dead until awakened by a spark from outside; rather it is like live steam, dangerous only if not provided with the proper outlet. The ban of silence has, therefore, been lifted, and organized effort has set unflinchingly about the task of revealing the consequences, frightful or loathsome though they may be, of transgressions against the hygiene and ethics of sex.

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[1] Hyg. Lab. Bull., 1907, 36.
[2] Wiener klin. Wchnschr., 1903, xvi, 758.
[3] Berl. klin. Wchnschr., 1910, xlvii, 1922.
[4] Berl. klin. Wchnschr., 1911, xlviii, 55

Even yet, however, the ascetic view predominates; the destructive aspects of this ever-present natural force are the ones emphasized. That impulse which the Greek saw as a part of the vivifying forces of an august yet genial Nature, typified by the fertile earth and the quickening rain and sunshine—that impulse which has directly inspired much, if not most, of the greatest efforts in all forms of art, and which in subtler ways has entered into the greatest achievements of humanity—that impulse which, after all, not only perpetuates, but forever binds together the race with ties growing out of family, kinship and friendship—that impulse is presented to the impressionable mind of youth chiefly in its perverted aspects—aspects which shock and repel. Is there danger of permanently distorting the point of view—of infecting the susceptible youthful mind with suspicion and pessimism and, indeed, of actually degrading its ideals and possibilities?

This question has been stated clearly, forcibly and thoughtfully by W. D. Parkinson.[1] "The merit of truth," he says, "is not in its nakedness. To depict in startling colors the awful consequences of vice and to dwell on its equally appalling prevalence have never been found effective in advancing the standards of virtue. Indeed, these are the very measures oftenest employed by the two most active promoters of vice—the quack who deals in startling consequences and the evil companion who is always ready with the assurance, 'They all do it.' . . . Fear of consequences is not the ultimate appeal to a robust nature. No degree of danger will deter a youth from venturing into experiences which he believes he is to share with those who constitute the real world: and vice always claims to be the real side of human life. . . . Society is so permeated with this tone of patronage toward the poor fellow who has not sown and reaped wild oats that no threatened consequences can avail much with a youth who would rather be penalized than patronized. The half-contemptuous attitude toward innocence, maintained so conspicuously by the more outspoken portion of the public, is more impressive to the average youth than all the scareheads that benevolence may display in his path. For every man desires to be a sharer with other men. Unless he can be assured that reality reaches as far upward as it does downward, that the upper world is as rich to the explorer as the nether and affords at least equal manly companionship, he will cast in his lot with the underworld and take his chances with his fellows in spite of all warnings."

This touches the root of the matter. The negative sanctity of the ascetic—the insulated safety of the anchorite—make no appeal to most young people, and especially to boys, who look forward to living in a "man's world." Warning alone is not likely to save any but the weaklings, if indeed it saves them. The salvation of more robust natures must be positive. There is much wisdom, therefore, in Mr. Parkinson's assertion that the sex relationship should not be presented either as a menace in itself or as a mere matter of personal or social hygiene, but as "one of the fundamental—perhaps the most fundamental—of all the factors of social and spiritual progress." His article is worth reading, and his conclusions are worth pondering over.

THE LENTICULAR ZONE AND ANARTHRIA

The aphasia storm which had its origin in the "Revision" paper of Marie in 1906, and which broke with such violence in the discussion before the French neurologic society in 1908, has now almost passed, leaving the situation somewhat clearer, but still possessing most of its ancient landmarks.

It will be recalled that Marie maintains that Broca's convolution plays no rôle whatever in the zone of language; that aphasia is always due to a lesion of Wernicke's zone, and is always the "sensory aphasia" of the classical adherents; and that a lesion of the lenticular zone, of which he makes a tentative description, produces an anarthria—which anarthria plus the sensory aphasia equals the classical Broca's aphasia.

Thus: An isolated lesion of the zone of Wernicke=aphasia of Wernicke; an isolated lesion of the lenticular zone=anarthria; a lesion of the two zones=aphasia of Broca.

Dejerine stood by the classical conceptions, as did also Liepmann, Ziehen, Bianchi, Grasset and a host of others; v. Monakow took a median position, while Marie, Souques, Moutier and others defended the new theses in whole or in part.

It soon became evident that Marie's first contention was false. It has been proved without doubt that Broca's convolutions do play an important rôle in the function of language. The second contention never contained anything particularly new, save the added claim made by Marie that there was always an intelligence defect involved in Wernicke's aphasia; this has been effectually disproved by a number of recent studies. Now Mahaim[1] and Van Gehuchten[2] enter the lists and show that lesions of the left lenticular zone in right-handed individuals may occur without anarthria—in fact, without any trouble with speech whatever.

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[1] Parkinson, William D.: Sex and Education, Educational Rev., January, 1911, p. 42.

[1] Mahaim: Un cas d'aphasie motrice et sensorielle sans hémiplégie, avec intégrité de l'opercule, de l'insula, et du noyau lenticulaire, Bull. de l'Acad. roy. de méd. de Belgique, December, 1909, and Feb 27, 1910.

[2] Van Gehuchten: Lésion de la zone lenticulaire gauche sans troubles de la parole, Le Névraxe, Dec. 20, 1910.

Both Mahaim and Van Gehuchten have studied cases by means of serial microscopic sections in which the "lenticular zone," as described by Marie, has suffered almost total destruction, and yet there have been no speech disturbances of any kind. Furthermore, Van Gehuchten analyzes in detail the proofs advanced by Moutier in his thesis on which Marie bases his contentions, reproducing all his pictures, and shows that Marie's anarthria is really an anarthria of projection.

Thus, while aphasias still need more extended study by serial microscopic sections in order to clear up many vexed points regarding the rôle played by a number of projection and association paths in the function of language, it would appear that the final *coup de grâce* has been given to the last of Marie's primary contentions in his initial famous "Revision."

THE CIRCULAR AROUND THE BOTTLE

The Council on Pharmacy and Chemistry has certain rules governing the admission of proprietary and other medicinal products to New and Nonofficial Remedies (N. N. R.). A large number of preparations are ineligible to N. N. R. because they are exploited in nonconformity with Rule 4, which reads:

> "*Indirect Advertising.*—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is said to be indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to circulars, etc., when distributed solely to physicians, to advertising in medical journals, or to vaccines and antitoxins.)"

In other words it is held that circulars describing the diseases in which the remedy is useful are distinctly detrimental to public health; the tendency always is to exaggeration, not only as to their value, but also as to the variety of diseases in which the remedy is indicated.

A considerable proportion of the medical profession may still be charged with heedlessly playing into the hands of the "patent-medicine" man. The "circular around the bottle" is a striking instance of this. The patient has placed in his hands a preparation in the "original bottle" wrapped around which is a circular containing a comprehensive list of all the ills and pains and various derangements for which that product is supposed to be valuable. He is also given with the same package a supplementary list of a dozen or so of other prescriptions, and what diseases they will cure. He is at once advised how he may at all times and of his own initiative obtain these wonderful remedies. And all this with the (presumed) full endorsement of the family physician! Could anyone devise or imagine a more effective way of starting a patient on the road to self-drugging? And is not this the nature and purpose of the fanciful "circular around the bottle?" There are dozens, probably scores, of preparations which have never been advertised directly to the public and yet which are bought by that public, over the drug store counter, like the rankest of "patent medicines." These self-druggers have been made such by the carelessness of physicians who have prescribed "original packages" of such proprietaries as those under discussion. It is necessary only to call to mind such preparations as Antikamnia, Micajah's Wafers and Glycothymoline as some of the most flagrant examples, to realize the evil of prescribing a product having a "*circular around the bottle.*"

Nevertheless, the Council has been assured by several manufacturers that their preparations would be unsalable if they omitted this circular; that physicians would not use or prescribe these preparations without the circular, and—the saddest part of it all—these manufacturers appear to be serious and honest in their contention. What is the *meaning?* Do physicians really need the circular around the package or bottle to tell them why they are using this or that drug? Or does the circular confer some peculiar potency on the drug which would be lost if the circular were omitted? Or is the circular one of those bad but seductive habits which we would rather suffer than do without? Or, finally, are these manufacturers mistaken in their estimate of what physicians really want?

THE SECRET COMMISSION EVIL

The giving and receiving of secret commissions has been discussed with increasing frequency for several years. Although the existence of this practice has long been recognized, we have always believed that it has been confined to a comparatively small number of physicians. Condemnation of this evil by the Association, by THE JOURNAL and by various medical societies, as well as occasional local investigations and exposures, have apparently failed to abolish it. Recent discussion shows that the better men in the profession appreciate the importance of the problem and the need of its solution by physicians. In this issue appear two articles on the subject, one the president's address before the Western Surgical Association,[1] and the other an editorial from *Colorado Medicine*.[2] Both of these articles are severe and carry the impression that the practice is widespread. We are loath to believe that conditions are as bad as represented. Yet this evil, if existent to any extent, should be freely discussed and unsparingly condemned. Its correction is of vital importance to the public as well as to physicians. While it has long been recognized as existent by the profession, the rapidly growing interest of the public in professional matters and the increasing disposition of physicians to take the people into their confidence, have apprised the public, apparently for the first time, of the existence of this condition. Now that the people are informed, the evil must be speedily corrected by the profession, for if it is not, the people themselves will demand the right to suppress it.

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[1] THE JOURNAL A. M. A., this issue, page 725.

[2] Colorado Medicine, February, 1911; see THE JOURNAL, this issue, page 770.

It is significant that, in spite of the specious arguments brought forward in defense of this practice in professional circles, nö one has attempted to defend it before the public. The misleading excuses of "paying the attending physician for his time," "recognizing the diagnosis as of equal value with the operation," and other fallacious arguments which have been advanced in extenuation of this practice, will count for nothing with the public. Logically, they belong in the same category as the "poor boy" excuse for cheap medical colleges and night schools. Popularly, they will have much less weight, since the layman does not recognize, as yet, the importance of medical education to him and to his family, but does see, in the secret payment of commissions, that the patient, instead of being a sacred trust, is made an article of merchandise, whose money is divided without his knowledge.

The issue is so plain that it needs only to be stated to carry conviction to the unprofessional mind. It has been condemned and denounced repeatedly by medical organs and organizations and by high-minded medical men everywhere. Yet, we are told, the evil exists and is becoming more prevalent. If this be true, there is but one remedy, the remedy which in recent years has corrected many other pernicious and secret practices: Graft in the medical profession must receive the same treatment as graft in politics or in business—publicity. If the people and the profession are given the names of surgeons and specialists who offer secret commissions and of physicians who accept them, this wretched business will soon come to an end.

Apparently there is one community in which this remedy is to be applied. The Denver *Times*, an evening paper, which has for a long time excluded all objectionable medical advertisements, says editorially in a recent issue:

> . . . It is disquieting to learn from the organ of the Medical Society of Colorado that many physicians and surgeons are commercializing their practice through that system of secret rebates known as "fee-splitting." The method is about as follows: A patient consults a physician. The physician discovers that the case calls for the knowledge of a specialist or operation by a surgeon. Ethically it is the duty of the physician to seek the services of the most highly qualified man. But the sight of some possible dollars blinds the vision to ethical considerations and the patient is sent to the specialist or surgeon who agrees to pay to the physician the largest percentage of his fee. It is a debasing custom of course; it admits of neither extenuation nor excuse; but it seems to be a custom to which numerous physicians and surgeons of repute are addicted, and we believe that it can only be abolished by the publication of the names of the men practicing it. Some of those names we have obtained and authenticated already; we are investigating others now; and when the list is tolerably complete we will print it and gladly face the libel suits that such publication may involve. The men who do this kind of thing are well known already to the men who do not; in professional circles their names are a matter of common gossip; but they should be known equally well by the lay public, and we hope, shortly, to be able to give them the kind of advertising they merit.

And yet in this question, as in other complicated social problems, the public itself is to a certain extent to blame for existing conditions. In the majority of communities, the family physician is to-day receiving the same compensation which was paid his professional forefathers two or three generations ago; and this in spite of the enormous increase of the cost of professional education and of the standard of living, as well as of the quality of medical services. Whether wisely or not, the physician fears in many cases to raise the price of his services or to charge on any other basis than the time-honored, but economically absurd, basis of the number of calls made on the patient. The result is that in many cases the patient pays willingly and promptly the large fee demanded by the surgeon, but settles his bill with his family physician grudgingly and after long delay. The family physician often gives far more in time and services to the patient than he can expect to receive compensation for; and he has consequently turned to the surgeon to receive as a gift what he should have received from the patient as a right. If the public will compensate the family physician fairly and promptly for his services and will insist that all transactions between the physician and the consultant be carried on with the full knowledge of the patient, the cause and the possibility of this evil will speedily disappear. Physicians and surgeons must recognize the existence of this evil, must admit the rights of the public in the matter and must lead the way in abolishing it, but the public, on its part, must recognize the conditions which have given rise to this problem, must do its share to help the profession to solve it; and must support the family physician, both financially and morally, so that he may be able to deal honestly and fairly with his patients.

Current Comment

THE COST OF CLEAN MILK

On the principle that one cannot get something for nothing, it must be conceded that one result of the requirements for a cleaner, purer milk-supply will be an increase in its cost to the consumer. Official recognition of this fact is found in the report of the Philadelphia Milk Commission which recently investigated the matter of the milk-supply of that city. This report seems to cover fully the production and distribution of milk in all their phases, as relates to Philadelphia. The commission believes that milk can be produced and distributed under proper regulations with fair profit to all concerned at an advance of one cent a quart over present prices, making the price nine cents. They say that "the public is fully awakened to the danger of milk as received to-day, and will accept a proper increase in price to secure the protection that proper regulations will give them." They believe that though this might seem to be hard on the poorer consumers, really they will be most benefited, as at present they receive much milk that is unfit for consumption, and the amount which they will save by decreased illness on account of having a healthful milk-supply will more than compensate for the increased cost. They recommend that this increase should go to the farmers, who should receive not less than five cents a quart for milk produced under proper conditions. To this allotment, of course, the milk distributors demur. It is probable that the objection of the consumer to an increase in the price of milk has hitherto been because it benefited only the distributor, who already received the larger share of the selling price, for the smaller share of the labor and expense. The findings of the Philadelphia commission will no doubt apply, with modifications, to the milk question elsewhere, and their conclusions that the farmer should get more, and that the consumer will be willing to pay more, for clean, safe milk, will be generally accepted.

PLAGUE IN CHINA

Dr. Mullowney's account in this issue of the plague in North China illustrates one disadvantage of western civilization superimposed on a somewhat unprepared eastern population. The spread of plague would probably have been much less rapid in that section, as has been the case in the Hunan province in the south, had it not been for the existence of railroad communication. This, together with the insanitary conditions existing in the Chinese cities, and the unreadiness of the government to cope with the epidemic, make the condition there a very serious one. An infection like plague may readily spread along the main arteries of communication that have been opened up in such a country as China. The disease has continued to spread in many provinces, according to reports later than that of Dr. Mullowney, and probably will die out only after it has exhausted the susceptible material. Famine and rioting are adding to the horror of the situation and the extent of the devastation cannot be predicted. The "yellow peril" with this complication is a very real one and may be a matter of international concern at any time.

EASY WRITING VERSUS EASY READING: A HINT TO AUTHORS

The considerable amount of work required of the editor in preparing manuscripts for publication has led the editor of the *Journal of the Indiana State Medical Association* to voice a protest against the carelessness of authors in sending in their papers. The indictment is a true one. Writers could relieve the editor of much unnecessary work by a little care; and since, after all, no one should be so competent to set forth a man's own ideas and experiences as himself, such care would result in a better presentation of the subject than can be given by the most careful reviser. We refer particularly to case-reports, which are often presented in varying degrees of unprintable condition, sometimes being sprinkled with abbreviations devised by and intelligible only to the author, and sometimes merely defiant of grammar and syntax, but frequently requiring what amounts practically to rewriting. It would seem that the reports usually consist of disjointed, fragmentary notes jotted down at the time of examination, without revision, with verbs omitted from sentences, words, clauses and phrases separated by periods, the whole sounding like a telegram, with every rule of construction and punctuation violated. It would be no more difficult to make case-report a plain, consecutive narrative, conformin to the rules of good style, than to write the remainin text of the article in the same manner. The little tim required would be well spent, for the "easy writing which, as Byron said, "makes d—d hard reading, might almost as well not be done at all. We endors the sentiments of the editor from Indiana.

Medical News

ALABAMA

Tuberculosis Ward Equipped.—W. E. Colwell, Birminghan has donated equipment for a ward in the new sanatoriun established at Red Mountain by the Birmingham Antituberculosis Society. Ten of the twelve rooms have already bee furnished and the patients were removed to the institutio last week.

Society Elections.—Dale County Medical Society held it annual meeting in Ozark, January 11, and elected the following officers: president, Dr. Robert D. Reynolds, Jr., Ozark vice-president and censor, Dr. Andrew J. Morris, Newton; secretary-treasurer, Dr. M. O. Grace, Ozark; censors, Drs. Erastu B. Ard, Ozark; Samuel M. C. Howell, Midland City; Williar D. Mixson, Ozark, and Henderson L. Holman, Ozark; count health officer for four years, Dr. Erastus B. Ard, Ozark health officer for Ozark, Dr. M. O. Grace; for Midland City Dr. Samuel M. C. Howell; for Pinckard, Dr. R. G. Cary; fc Newton, Dr. James E. Stokes, and for Ariton, Dr. C. R. Athey ——At the annual meeting of the *Barbour County Medic* Society held in Eufaula, the following officers were elected president, Dr. John S. Tillman, Clio; vice-president, Dr Benjamin F. Jackson, Clayton; secretary-treasurer, Dr. William P. McDowell, Eufaula; county health officer, Dr. Clarenc Long, Comer; county physician, Dr. James J. Winn, Clayto and councilor, Dr. Benjamin F. Bennett, Louisville.——Coos County Medical Society has elected the following officers president, Dr. Julius Jones, Rockford; vice-president, Dr. S. I Jones, Rockford; health officer for five years, Dr. William I Moon, Goodwater, and censor, Dr. Eugene Argo, Goodwater.

CALIFORNIA

Additional Gift to Hospital.—Mrs. Whitelaw Reid has give an additional $60,000 to the Red Cross Guild Hospital, Sa Mateo, which was erected as a memorial to her parents, M and Mrs. D. O. Mills.

Election.—At the annual meeting of the Humboldt Count Medical Society, held at Sequoia, the following officers wer elected: president, Dr. John N. Chain, Eureka; secretary, Dr John M. Mill, Arcata; and treasurer, Dr. Francis R. Hore Arcata.

Dr. Royer is Not Dead.—In the *Southern California Practitioner*, December, 1910, appeared the death notice of Dr Daniel Franklin Royer of Orange, and on this authority hi name was included among the dead in this journal. Dr. Id B. Parker of Orange informs us that the notice was incorrect and that Dr. Royer is alive.

COLORADO

Commissioners Approve Dr. Cassidy's Plan.—The board c commissioners of Denver County, on February 9, placed itse on record as favoring Dr. Elizabeth Cassidy's move for mor careful selection of the medical staff of the city and count hospital, by adopting resolutions endorsing the provisions o the bill now in the hands of committees in the house an senate, which place the appointive power in the faculty of th state university, medical department.

Personal.—Dr. Leonard Freeman, Denver, who was recentl operated on for appendicitis at *St. Joseph's Hospital*, i reported to be convalescent.——Drs. Henry W. Hoagland, P Oliver Hanford and Gerald B. Webb, Colorado Springs, hav been appointed to the medical staff of Sunny Rest Sanatorium.——Dr. James C. Todd, Denver, has been appointed professor of pathology and secretary of the first and second year divisions of the University of Colorado Medical School, Boulder.

GEORGIA

New Officers for Medical Board.—At the February meeting of the medical board of Grady Hospital, Atlanta, the following officers were elected: president, Dr. John C. Olmstead; vice-president, Dr. F. Phinizy Calhoun; and treasurer, Dr. L. Benjamin Clarke.

Long Memorial Infirmary.—Crawford W. Long Infirmary banks were opened at various places in Athens, March 2. These take the place of a personal canvass for the establishment and endowment of a Memorial Infirmary for the University of Georgia in honor of the late Dr. Crawford W. Long.

District Society Election.—At the fourth annual meeting of the Tenth District Medical Society, held in Augusta, February 14, the following officers were elected: president, Dr. Joshua R. Beall, Blythe; vice-president, Dr. William W. Beattey, Jr., Augusta; and secretary-treasurer, Dr. George A. Taylor, Augusta (reelected). The society was entertained at a banquet by the Richmond County Medical Society in the evening, when addresses were made by Dr. Joseph N. McCormack, Bowling Green, Ky.; Dr. Albert Vanderveer, Albany N. Y., and others. The society adopted a resolution highly commending the faculty of the medical college for its efforts in behalf and in connection with the college-hospital movement.——The annual meeting of the Fourth District Medical Society was held in Carrollton, February 21. Addresses were made by Dr. Joseph N. McCormack, Bowling Green, Ky., and Dr. Eduard C. Davis, Atlanta, president of the Medical Association of Georgia. The following officers were elected: president, Dr. Charles A. Dexter, Columbus; vice-president, Dr H. J Goodwyn, Roopville; and secretary-treasurer, Dr. Homer Boatright, Carrollton. The next meeting of the society will be held in Greenville, September 19.

ILLINOIS

Maternity Hospital for Aurora.—The Sisters of Mercy announce that they have purchased the Ryburn Flats, with the surrounding property, for $18,000, and will establish a maternity hospital to be known as St. Joseph's Infirmary.

Hospital Staff Resigns.—Fifteen of the eighteen members of the medical staff of Oak Park Hospital resigned March 3, the cause assigned being the interference with the duties of the staff, by the Sisters of Misericordia, who are in charge of the hospital.

Personal.—Dr. Jesse M. Threadgill, New Douglas, was recently operated on in Rebecca Hospital, St. Louis, for a ununited fracture of the arm, due to a runaway accident, January 30.——Dr. Paschall N. Bowman, Springfield, charged with manslaughter, is said to have been freed from that charge, February 27, and committed to the Jacksonville State Hospital.——Dr. Lucinda H. Corr, Carlinville, was awarded $1,000 in her suit for damages against the Chicago and Alton Railway, for injuries received in a wreck.

Commend Association for Education Work.—The Williamson County Medical Society, at a special meeting held for the purpose, February 28, passed resolutions commending the American Medical Association for its services in elevating American medical standards and urging further effort until standards of preliminary education and of medical practice in the United States shall be fully equal to those of Europe. The preambles recite that there are many unnecessary medical colleges which are run for commercial purposes, and that, because of competition between these colleges, many incompetent and even illiterate physicians are graduated; and that these factors together with commercialism in professorships and lack of stringency in examinations are causing harm to the general practitioner, without any benefit to the public.

Chicago

Money for Sanatorium.—In the state tax levy for 1911 is included an item of $442,184.64 for the Municipal Tuberculosis Sanatorium.

Many Appointments to Medical Reserve Corps.—The President has sent to the Senate the nominations of sixty-seven more physicians of Chicago as first lieutenants of the Medical Reserve Corps.

Site for Tuberculosis Sanatorium.—The city of Chicago has taken title to the remaining 60 acres of the 160-acre tract purchased for the Municipal Tuberculosis Sanatorium at North Fortieth and Bryn Mawr avenues.

Trouble at Hospital.—As a result, it is said, of disloyalty and insubordination on the part of members of the staff of Mary Thompson Hospital, seven members have been dismissed. The physicians in question claim that the trouble lies in the appointment of a lay superintendent, and in the overbearing treatment of the physicians by the superintendent.

Personal.—Dr. David J. Davis of the Memorial Institute for Infectious Diseases has been appointed pathologist to St. Luke's Hospital.——Dr. Katherine B. Rich has been appointed assistant city physician, and began her duties February 24.——Dr. B. Brindley Eads, who was operated on at the Presbyterian Hospital, March 6, is making satisfactory progress toward recovery.

Society to Support State Institution.—The council of the Chicago Medical Society, at a meeting February 14, unanimously adopted resolutions endorsing the request of the trustees of the University of Illinois for an annual appropriation of $100,000 for the equipment, maintenance and extension of the medical school, and appointed a committee to assist in presenting the matter to the legislature and the governor.

Contagious Disease Hospital.—The common council has decided to add the fund of $75,000 bequeathed to the city by the late Mrs. Annie C. Durand for the establishment of a public bathhouse, to another fund, the combined fund amounting to about $200,000, to be used for the construction of a hospital for the treatment of contagious diseases, and an arrangement has been made with the trustees of the McCormick Memorial Institute for Infectious Diseases, whereby that institution will meet any expense of maintenance not covered by the Durand endowment fund.

To Avoid Undesirable Newspaper Publicity.—At its last meeting, the Council of the Chicago Medical Society adopted certain preambles and resolutions relative to newspaper publicity. The Council expressed the opinion that reporters should be excluded from all meetings of medical societies during the consideration of all strictly scientific matters, except those bearing on sanitation, public policy, hygiene or sociology; also that abstracts of such papers that come within the range of subjects considered as proper for publication in the public press be handed to the secretary, before or at the meeting, to be given by him to the press.

INDIANA

Contract for Hospital Let.—The contract for the erection of the new St. Vincent's Hospital, Indianapolis, was let March 2. The main building will be five stories in height and of steel, fire-proof construction. There will be two diet kitchens on each floor, and there will be fourteen operating rooms in the building, the entire top floor being given up to surgical purposes.

Leaves Estate to Hospital.—Hon. David Darwin Dykeman has left the bulk of his estate for the establishment of a city hospital in Logansport, to be known as the Mary Dykeman Memorial Hospital, to be in charge of a hospital commission to be composed of three members, one to be elected by the city council, one by the commissioners of Cass County, and one by the circuit court judge.

Twin City Physicians Meet.—A meeting was called in Indiana Harbor, February 21, which was attended by most of the physicians of that place and East Chicago. The object of the organization, which is to meet semi-monthly, is to establish a schedule of fees and to promote a more friendly feeling among physicians of the twin cities. Dr. George Orf, Indiana Harbor, was elected president of the new organization.

Personal.—Dr. Edward J. McOscar, Fort Wayne, has returned from a trip to Panama and Central America.——Dr. Matthias Muhlhausen, Evansville, is reported to be critically ill.——Dr. Orange G. Pfaff, Indianapolis, who has been seriously ill with septicemia due to an operation wound, is convalescent.——Dr. William H. Williams, Dale, has retired from the practice of medicine.——Dr. Walter M. McGaughey, Greencastle, sustained a fracture of the arm, February 16, by back-fire of his automobile.——Dr. Charles W. Corey, Hartford City, dislocated his left arm in an automobile accident, February 14.——Dr. Alfred Henry has been appointed chief of the Free Tuberculosis Clinic, Indianapolis, vice Dr. William T. S. Dodds.——Dr. Walter H. Peters, Lafayette, who was operated on recently in Rochester, Minn., is reported to be convalescent.——Dr. Abraham G. Shortle, formerly of Indianapolis, has been appointed medical director of the Albuquerque (N. Mex.) Sanatorium.——Dr. William H. McClurg, Kokomo, while crossing a railroad track recently, was struck by a passing train but was not seriously injured.

KENTUCKY

Sanitary School Incorporated.—The Louisville School of Sanitary Instruction has been incorporated by Drs. W. E. Grant, Ezra O. Witherspoon and William E. Gary.

Gift to Hospital.—The Jewish Hospital Association, Louisville, has received as a gift from Mr. Bernard Bernheim 70 feet of ground on Kentucky Street, adjacent to the hospital, which is valued at more than $10,000. The property includes a new two-story brick residence. The house is to be used as a nurses' home, and is to be called the Bernard Bernheim *Annex.*

Want Public Abattoir.—Dr. W. Ed Grant, city health officer of Louisville, has called a conference of all the butchers in the city to discuss the establishment of a public abattoir to cost in the neighborhood of $150,000. A joint investigation by the City Health Office and the State Pure Food Department has shown the slaughterhouses in the city of Louisville to be in a very insanitary condition.

Care of the Insane.—At the recent meeting of the State Board of Control of Charitable Institutions, a special committee of the State Federation of Women's Clubs advocated training school for nurses and attendants in state asylums for the insane, shorter hours of work and living rooms apart from those of the patients. At this meeting it was pointed out that there is no great need for an increased per capita allowance for the care of the insane, and it was also suggested that the names of the state asylums be changed to "state hospitals."

MAINE

Appeal for Bowdoin.—The president of Bowdoin College has issued an appeal to the alumni association for $140,000 for the use of the medical department. The most pressing needs of the institution are new laboratories and improvements and hospital facilities for the establishment of a dispensary in Portland.

Society Meetings.—York County Medical Society, at its annual meeting, held in Biddeford, elected Dr. Fritz E. Small, Biddeford, president; Dr. Eduard C. Cook, York Village, vice-president; Dr. David E. Dolloff, Biddeford, secretary; Dr. Lawrence E. Willard, Saco, treasurer; Dr. Frank H. Hobbs, Waterboro, censor.——Kennebec County Medical Association, at its annual meeting in Bangor elected Dr. Richard H. Stubbs, Augusta, president; Dr. Donald B. Cragin, Waterville, vice-president; and Dr. Wellington Johnson, Augusta, secretary-treasurer.——At the annual meeting of Androscoggin County Medical Association, held in Lewiston, the following officers were elected: president, Dr. Alonzo M. Gracelon, Lewiston; vice-president, Dr. Louis C. Baribault, Lewiston; secretary-treasurer, Dr. Joseph W. Scannell, Lewiston; and censors, Drs. Laureat P. Ducharme, Ernest V. Call, and Harold E. E. Stevens, all of Lewiston.——Portland Medical Club, at its annual meeting, elected the following officers: president, Dr. Ambrose H. Weeks; vice-presidents, Drs. Daniel Driscoll and Harold A. Pingree; secretary-treasurer Dr. Harold J. Everett; and censors, Drs. Bertrand F. Dunn, and Thomas J. Burrage.

MARYLAND

State Society Meeting.—The annual meeting of the Medical and Chirurgical Faculty of Maryland will be held in Baltimore, April 26-28, inclusive.

Personal.—Dr. Henry P. Fahrney has been appointed physician of Montevue Hospital, Frederick.——Dr. Daniel S. Jenifer, formerly of Atlantic City, N. J., has begun practice in Towson.

Increase Capacity of Sanatorium.—A new administration building and two additional hospital wings will be erected at the Maryland Tuberculosis Sanatorium, Sabillasville, this spring, increasing the accommodation for patients from 200 to 400. The new building will be about 500 feet in length and two stories in height.

Baltimore

Enlarge Dispensary.—The directors of the Baltimore General Dispensary have purchased a site 25 by 61 feet and will erect on it a two-story and basement building.

Personal.—Dr. Arthur Marriott was seriously injured by the bite of a baboon which escaped from its cage at the Custom House, February 28.——Dr. Covington has resigned as a member of the staff of the Presbyterian Eye, Ear, Nose and Throat Hospital.

Gift to Children's Hospital.—Dr. James Lawrence Kernan has given to the Kernan Hospital and Industrial School for Children a further gift of $10,000, which will be applied to the building fund. The previous gift included a large colonial house and 60 acres of land.

Fined Under Drug Law.—Dr. John F. Lang, is reported t have pleaded guilty in the criminal court, March 2, to fou indictments, charging him with unlawfully issuing prescriptions for morphin and cocain to habitual users of these drug and to have been fined $50 and costs in each case, making total of more than $300.

The Diphtheria Situation.—*As the result of the conferenc between the health department and medical staff of John* Hopkins Hospital, a canvas of boarding houses in whic students of the medical school live, was begun February 2 to determine the presence or absence of diphtheria. The cit was divided into four groups and eight employees of th health department and four members of the hospital sta were detailed on this work. About 175 homes were visite and 1,700 cultures made. The total number of cases c diphtheria in the hospital up to March 4, was fifty-nin including three physicians. There are also five cases of diphtheria at the Church Home. The dispensary has been close to all cases except those of throat trouble. The office o the medical school and postoffice have been moved to the hous adjoining the hospital. The Hebrew Hospital and Dispensar nearly opposite Johns Hopkins Hospital was closed to visitor and new patients, February 28, on account of the prevalanc of the disease in that section. For the same reason all visitors have been forbidden entrance to St. Joseph's Home fo Incurables, the Maryland Home and Hospital, and St. Agnes Hospital. Visitors are also prohibited at Mercy Hospita Maryland General and University Hospital. Dr. J. Whitridg Williams, dean of Johns Hopkins Medical School, has announce the resumption of first and second year work, March 8, bu throat cultures are made before admission of students.

MASSACHUSETTS

Illegal Practitioner Fined.—Edward E. Hosmer, Lynn, wh burned several children with a powerful acid in an effort t cure infantile paralysis, is said to have been found guilty o practicing medicine without a license, and to have been fine $250, February 25.

Society Meeting.—The Eastern Hampden Medical Societ at its thirty-first annual meeting, February 9, in Springfiel elected Dr. Albert M. Belden, Northampton, president; D Arthur L. Damon, North Wilbraham, vice-president, and D Raymond A. Kinloch, Springfield, secretary-treasurer.

Money for Hospitals.—By the will of the late Mrs. Ros Cobb Cole, Plymouth, $100,000 is devised to the Jordan Hospital in that city.——By the will of ex-mayor George W Fifield, Lowell, $20,000 is devised to St. John's Hospital Lowell, and a similar amount to the Lowell General Hospital

NEBRASKA

Personal.—Dr. Adolph Sachs, Omaha, has returned from Europe.——Dr. Frank M. Barnes, Omaha, was struck by a automobile, February 21, spraining his ankle.

Change of Staff of State Hospital.—On February 2, Dr William B. Kern succeeded Dr. Mark W. Baxter as superintendent of Ingleside Asylum, Hastings. The new superintendent announces the following appointments: first assistant Dr. F. H. Juegle; second assistant, Dr. C. A. Oaks; thir assistant, Dr. M. J. Gilfillan, and fourth assistant, Dr. Merce B. Croll.

Annual Meeting of Casualty Company.—At the annua meeting of the Physicians' Casualty Association of America the proposal to remove the home office from Omaha to Chicag is said not to have been favorably received. Dr. DeWitt C Bryant was reelected president; Dr. Dellizon A. Foote, vice-president, and Drs. LeRoy Crummer, Robert A. Gilmore an Charles C. Allison were reelected directors, all of Omaha.

County Medical Society Meetings.—At the annual meeting of Boyd County Medical Society, held in Lynch, February 10 Dr. George W. Ira, Lynch, was elected president; Dr. George E. Darrow, Butte, secretary-treasurer; and Dr. John R Beatty, Butte, delegate to the state society.——Nuckolls County Medical Association, at its recent meeting in Nelson elected Dr. John W. Mitchell, Superior, president; Dr. Edwin M. McGee, Nelson, vice-president; Dr. Frank Mitchell, secretary.——York County Medical Society has elected the following officers: president, Dr. Orville M. Moore; vice-president, Dr. Frank G. Snyder; secretary-treasurer, Dr. James N. Plumb; delegate to the state society, Dr. Walter F. Reynolds, all of York; and alternate, Dr. George A. Morrison, Bradshaw.——Physicians of Stanton County met January 31, and organized a county medical society and elected Dr. William R. Peters, president; Dr. Emil C. Underberg, secretary, and Dr. William H. Person, treasurer, all of Stanton.

NEW HAMPSHIRE

Bequest.—By the will of the late Dr. George F. Wilbur, Nashua, about $60,000 is devised to the Nashua Emergency Hospital.

Personal.—After a continuous service of twenty-one years, as executive officer of the Dover Board of Health, Mr. Charles M. Jones has retired.——At the annual banquet of the Manchester Medical Association, held February 14, and at which Dr. Wellington A. Thompson presided, the addresses of the evening were given by Dr. Edward W. Taylor, Boston, on "Infantile Paralysis," and by Dr. Harvey P. Towle, Boston.

NEW JERSEY

Wall Paper Regulation.—The Bayonne Board of Health has added to the sanitary code of the city rules prohibiting the placing of new wall paper on the walls of any dwelling until the old paper has been removed and the wall thoroughly cleansed.

Personal.—Dr. Ervin C. Towne, resident physician at Cooper Hospital, Canton, is reported to be seriously ill with septicemia.——Dr. Wells P. Eagleton has succeeded Dr. Charles J. Kipp as medical director of the Newark Charitable Eye and Ear Hospital.——Dr. Edward S. Sharpe, Salem, is reported to be ill at his home.

Societies May Unite.—At a meeting of the Passaic Medical Society, February 9, a motion to unite with the Passaic County Medical Society, was adopted, contingent to the granting of certain conditions, and Drs. George T. Welch, William H. Carroll and Gilbert Van Vranken were appointed a committee to treat with the county society.

Academy of Medicine Organized.—Formal organization of the Academy of Medicine of Northern New Jersey was effected at a meeting held in Newark, February 25. A constitution and by-laws were adopted and the following officers were elected: president, Dr. Edward J. Ill, Newark; vice-presidents, Drs. Thomas N. Gray, East Orange; Wells P. Eagleton, Newark, and secretary, Dr. Julius Levy, Newark. One of the provisions of the constitution is that dentists may become associate fellows of the organization and have a separate section where they can pursue their own branch of study.

Health Lectures.—A series of free public lectures on health is being given at Newark under the auspices of the Public Education Committee of the Essex County Medical Society, the Public Health Committee of the State Federation of Women's Clubs, and the College Women's Club. Lectures have already been given on "Food Fads" by Dr. Richard C. Newton, Montclair; on "The Eye in Health and Disease" by Dr. Linn Emerson, Orange; and on "Clean Streets for Health" by Dr. William Buermann, Newark. On March 22, W. F. Barry, Orange, will speak on "The Care of the Teeth in Relation to Health;" on April 10, Dr. Christopher C. Beling, Newark, will take up "The Cause and Prevention of Nervous and Mental Diseases;" and on May 1, Dr. Thomas N. Gray, East Orange, will discuss "The Social Evil and Its Effects on Public Health."

NEW YORK

Bequest for Nassau Hospital.—The will of Mrs. Alice Hicks of Westbury, L. I., gives $100,000 to the Nassau Hospital, Mineola, L. I.

Hospital Closed.—The New Amsterdam Eye and Ear Hospital in West Thirty-Eighth Street has received permission from the courts to sell its property for $60,000. The reason given for this action is that the institution is not paying.

Wood Alcohol Kills Three.—Three out of five persons who drank wood alcohol believing it to be grain alcohol at a wedding anniversary celebration near Middleton, N. Y., died from the effects of the beverage. The man who sold the stuff has fled and the authorities are searching for him.

Bill to Protect Marriage.—A bill has been brought before the legislature providing that no marriage license shall be issued until each party has presented a doctor's certificate of freedom from any contagious, infectious or transmissible disease, and making it a misdemeanor to procure such a certificate by fraud.

For Better Milk.—The committee of the New York Milk Committee, known as the Committee for the Reduction of Infant Mortality, in its endeavor to raise the sum of $300,000 has sent appeals to a large number of women who were thought able to contribute, and women will follow up this appeal by a street canvass for contributions to this fund.

Harvey Society Lectures.—The seventh of this course of lectures will be delivered on March 25 by Prof. H. Gideon Wells, of the University of Chicago, on Calcification and Ossification. The eighth and last lecture of the course will be delivered on April 1 by Dr. S. Weir Mitchell of Philadelphia, the subject being "William Harvey, the Discoverer of the Circulation of the Blood."

Bellevue Alumni Dine.—After participating in the twenty-fifth annual meeting of the organization 250 Bellevue alumni dined at Delmonico's and listened to addresses by Dr. Charles F. Stokes, Surgeon-General of the Navy; Drs. William K. Polk, Joseph D. Bryant, John W. Brannan and Floyd M. Crandall. Dr. Starling Loving of Columbus, O., who was one of the first paid interns and served in 1849 and 1850 at the time of the cholera epidemic, was present.

New York City

Bronx Hospital for Bronx Physicians.—Declaring that Bronx physicians exclusively are entitled to attend Bronx patients, a number of medical men of the borough protested to the State Board of Charities, February 27, against the opening of a new hospital in that borough by Dr. Abraham Jacobi and seventeen physicians and surgeons, fifteen of whom are said to be residents of Manhattan.

Personal.—Dr. Theodore C. Janeway has been appointed senior attending physician of the Presbyterian Hospital as the result of a recent tentative agreement between the hospital and Columbia University. Dr. William G. MacCallum has been appointed pathologist to the hospital.——Dr. Williams McKim Marriott, assistant to the chair of physiologic chemistry in Cornell Medical School, has been appointed instructor in biologic chemistry in Washington University, St. Louis.

Gifts to Hospitals.—The late Melville W. DeWolf left a bequest of $5,000 to the Presbyterian Hospital to establish the Emma DeWolf bed for children, and $5,000 to Roosevelt Hospital to establish the Carlton DeWolf free bed.——The Society of the Lutheran Hospital of the City of New York, formed for the purpose of building a Lutheran Hospital in this city, has received a donation of eight lots near Central Islip, L. I., on which to erect a home for convalescents. The name of the donor is withheld. The society has been pledged about $250,000 toward the erection of a city hospital, of which $100,000 was given by John Riehle.

OKLAHOMA

County Medical Society Election.—At the recent meeting of the Tillman County Medical Association, held in Frederick, the following officers were elected: president, Dr. Adam B. Fair, Frederick; vice-president, Dr. Francis E. Rosenberger, Grandfield; secretary-treasurer, Dr. John P. VanAllen, Frederick; alternate delegate to the state association, Dr. James D. Osborn, Frederick; censor, Dr. John H. Hanson, Grandfield.

Personal.—Dr. William N. McGee, local surgeon of the Rock Island System at Shawnee, has resigned and has been succeeded by Dr. Charles H. Blickensderfer, Tecumseh.——Dr. W. H. Slaughter, a colored physician of Oklahoma City, was seriously injured recently in a collision between his buggy and a heavy wagon.——Dr. Walter Hardy, Ardmore, has approved plans for a sanitarium to be built by September 1.——Dr. C. A. Steward, Allen, is reported to have been convicted of manslaughter in the second degree, and to have been sentenced to imprisonment for three years in the penitentiary. The charge was that he shot and instantly killed a formerly intimate friend, during a quarrel, on Christmas eve, 1909.

PENNSYLVANIA

Hospital Opened.—After unexpected delays the Meyer Emergency Hospital, Erie, was opened for patients, February 19.

New Bulletins for Health Department.—Bulletins 16 and 17, issued by the State Department of Health are on "The Conservation of Infant Life in Pennsylvania," and on "Pennsylvania's Standing Army of Health."

Personal.—Dr. Charles P. Woodring has been appointed a member of the board of health of Meadville.——Dr. Leroy W. Braden had a narrow escape from drowning while attempting to ford a flooded creek near his home at Ten Mile.

Gifts to Hospitals.—Mrs. Minnie Bachman, Sharon, has given $10,000 to Lancaster General Hospital, to provide a free room in memory of the donor's husband, Morris Bachman.——By the will of the late Abraham Weitzenkorn, $500 is bequeathed to Pottstown Hospital.

Philadelphia

Hospital Addition Dedicated.—Bradley Hall, the new addition to the Methodist Episcopal Hospital, was formally dedicated on February 25. Bishop C. W. Smith made the principal address at the exercises. Mr. Thomas Bradley, president of the board of trustees, is the donor of the building, which cost $40,000, and will be used for kitchens, store-rooms, dining rooms and dormitories.

Personal.—Drs. *Charles K. Mills and William G. Spiller* have been elected *foreign corresponding members of the Société* de Neurologie, Paris.——As Dr. John H. Musser has refused to allow his name to be considered for the professorship of practice of medicine in the University of Pennsylvania, Dr. Alfred Stengel, professor of clinical medicine, has succeeded to the chair.——Dr. S. Weir Mitchell celebrated his eighty-first birthday, February 15.

New Officers.—The president of the Philadelphia County Medical Society, Dr. Christian B. Longenecker, has made the following appointments for the year 1911: Committee on Public Policy and Legislation, Drs. Hobart A. Hare, George A. Knowles, Wilmer Krusen, John D. McLean and L. Webster Fox, chairman; committee on membership, Drs. Mary Buchanan, M. Howard Fussell, George C. Yeager, Milton F. Percival and Samuel Wolfe, chairman; committee on library, Drs. Edward E. Montgomery, Elizabeth L. Peck, Albert M. Eaton, Herman B. Allyn and James M. Anders, chairman; and reporter, Dr. Howard C. Carpenter.——At the meeting of Philadelphia Medical Club, January 20, the following officers were elected: president, Dr. William L. Rodman; vice-presidents, Drs. S. Lewis Ziegler and Gwilym G. Davis; secretary, Dr. J. Gurney Taylor, and treasurer, Dr. Lewis H. Adler, Jr.; governor (for 5 years) Dr. Edward L. Duer.——The new officers chosen by the Kensington Branch of the County Medical Society include: chairman, Dr George H. Nofer, and clerk, Dr Valentine R. Manning.——The Northern Medical Association has elected the following officers: president, Dr O. Luther Latchford; *vice-president*, Dr. *Paul F. Bremer*; secretary, Dr. Lee Boyce; *corresponding secretary*, Dr. Thomas Shriner, and *treasurer*, Dr. *John W. Millick*.——The following officers were elected by the North Branch of the County Medical Society for the year 1911: Dr. Wilmer Krusen, *chairman*; Dr John Leedon, clerk; Dr. Samuel P. *Gerhart* was elected associate vice-president of *the county society* to represent this branch.

VIRGINIA

Sanatorium Opened.—The Birdville Sanatorium for Consumptives, Petersburg, was formally *opened*. February 14

Election.—At the quarterly meeting of the Alexandria Medical Society, *the following* officers were elected: president, Dr. William M. Smith, Alexandria; vice-presidents, Drs. Samuel B. Moore, Alexandria; and T. F. Dodd, Fairfax County; secretary, Dr. Llewellyn Powell, Alexandria, and treasurer Dr. R. J. Yates, Alexandria County.

Undergraduates' Association.—Students of the *third and* fourth year classes of the University College of *Medicine*, Richmond, have organized an undergraduate surgical association according to the plan adopted a few years ago by the University of Pennsylvania. The association meets every Thursday evening and discusses surgical questions. The officers *of the association* are: president, W. M. Burnett; vice-*president*, O. L. Hamilton, and secretary-treasurer, C. J Allen.

Personal.—Dr. Alexander G. Brown, Richmond, has been *commissioned* captain, Medical Corps, Virginia Volunteers.——Dr. Frank H. Hancock, Norfolk, has been appointed quarantine officer of the Elizabeth River District, vice Dr. Powhatan S. *Schenk*.——*Dr*. William E. Jennings, Bedford, has been *appointed* resident physician at the Catawba Sanatorium, vice *Dr*. William D. Tewksbury, resigned to accept the position *of* superintendent of the District of Columbia Tuberculosis Hospital.

GENERAL NEWS

New Member of Referee Board.—Secretary Wilson has *appointed Dr*. Theobald Smith, Harvard Medical School, to fill *the* vacancy in the Referee Board of Consulting Scientific Experts caused by the death of Dr. Christian A. Herter, New York City.

Report on Cholera in Honolulu.—Up to March 5, *nineteen* cases of cholera have developed in Honolulu, with *fifteen deaths*. all the deaths being of native Hawaiians. As a precautionary *measure* the schools in one district of the city have been *closed*.

Orriss Under Arrest.—A. W. Orriss, concerning whom a warning was published in The Journal, February 11, page 432, has been arrested on complaint of Dr. J. C. Atwell, Butler, Pa., and is in jail at that place, charged with obtainin money on false pretenses.

New Officers of Sanitary Association.—*At the meeting of th* Lake Michigan Sanitary Association, noted in the issue o March 4, page 679, Dr. William D. Weis, health commissione of Hammond, Ind., was elected president; Dr. Henry B. Favil Chicago, first vice-president; and Dr. Aaron J. Lauer, Whiting Ind., member of the executive committee.

Tri-State Medical Society Meeting.—The *annual meetin* of the Tri-State Medical Society of Virginia and the Carolina was held in Raleigh, N. C., February 22 and 23, under th presidency of Dr. Joseph A. White, Richmond, Va. The following officers were elected: president, Dr. J. Howell Wa Waynesboro, N. C.; vice-presidents, Drs. Thomas E. Anderso Statesville, N. C.; William E. Anderson, Farmville, Va.; an Frank H. McLeod, Florence, S. C., and councilors, Drs. Edwar C. Register, Charlotte, N. C.; William W. Fennell, Rock Hil S. C., and Samuel Lile, Lynchburg, Va. The next meetin will be held in Columbia, S. C., Feb. 21 and 22, 1912.

Sanitation of the Canal Zone.—The *annual report of th* Department of Sanitation of the Isthmian Canal Commissio for 1910 shows a slight increase in the death rate over th previous year due to external violence, but a decrease as compared with the death rate of previous years. During the yea 558 deaths occurred among the 50,802 employees, equivalent t an annual mortality of 10.98 per 1,000. The death rate *amon* white employees from disease was 2.63 per 1,000. Typhoi fever caused 13 deaths during the year; dysentery, 21; pneumonia, 73; and malaria, 50. *One death from yellow feve* occurred January 24. This case was *imported from* Carthagena, and with this exception no yellow fever, plague or smallpox has occurred during the year.

Life Insurance Directors Meet.—The Medical Section of th American Life Convention held its semi-annual meeting in Ne Orleans, February 23-25. Among the important papers presented were those by Dr. H. A. Baker of the Pittsburg Lif and Trust Company on "Substandard Risks," in which h stated *that* the officers of sailing and steam vessels ar undoubtedly the greatest risks to insurance companies an *next to these* come actors, glass workers, naval officers, railwa trainmen, seamen and fishermen, overweight and underweigh risks. In overweights there is likely to be degenerative change and underweights a great risk of tuberculosis. Dr. Frank L B. Jenney, medical director of the Federal Life Insurance Company, Chicago, read an interesting paper on "Office Method and Reporting of Impairments"; and Dr. Amand N. Ravold St. Louis, *discussed* "Uranalysis and Preservation of Urine." The reasons for a national board of health were *considere* by Dr. Albert Anderson, medical director of the *Jefferso* Standard Life Insurance Company. *The association endorse* the Owens bill, and appointed *a committee, consisting* of Drs Albert Anderson, F. M. Cross, and Victor C. Vaughan, Jr. Detroit, to represent the association in the advocacy of thi measure.

Discovery of Poliomyelitis Organism.—The Department o Health of Pennsylvania announces that in examining blood i acute cases of poliomyelitis in human beings and monkeys, i which the disease was produced experimentally, an organis has been found different in morphologic characteristics fron any hitherto described, which may or may not prove th etiologic factor in the causation of the disease. Blood smear being fixed in methyl alcohol and stained with carbol-thionin *the organism* appears as a faintly-stained blue rod with regula *cell* wall about 10 microns long and .8 microns in width curved *at* an angle of 60 to 75 degrees at one end, and occasionall *at* both ends. At times the curved end is bulbous. Some o the organisms appear to have a very finely granular protoplasm, and they are found free in the *serum as well as in th* body of *the red blood* cell. The organisms do not retain the violet color *when* stained by the Gram method but assume the color of the counter stain which is a very dilute solution o carbol fuchsin. The specimens of blood examined were fron *ten* children who had anterior poliomyelitis during the epidemic of last summer and autumn, and from thirteen cases of *the* disease in its acute stage, which had been produced experimentally in monkeys. Blood smears examined from three *normal* human beings and thirteen normal monkeys were carefully examined with negative results. After inoculation with the virus, these monkeys gave positive results. Blood smears were *stained* with iodin and sulphuric acid in order to test the organisms for cellulose. Smears from the cords and brain-of paralyzed monkeys, and from one human being were examined, but none of the new organisms was found. Filtered virus stained with carbol-thionin by Gram's method showed none of these organisms. Defibrinated blood, from three weeks to two months old, from two paralyzed monkeys showed the forms in increased numbers. Cultures made from blood of a paralyzed monkey in blood bouillon, plain bouillon, and blood-agar, examined after an inoculation of three weeks, showed the presence of the organism in increased numbers. Dorsett's egg medium was inoculated with the same blood at the same time, but the organism was not found in smears from surface of the medium or from the water of condensation. Search was made without success for moving organisms in fresh blood, in old tubes of defibrinated blood from paralyzed monkeys, blood bouillon, plain bouillon, serum bouillon cultures three weeks old, and in the condensation water of three-weeks-old cultures on Dorsett's egg medium, under decalcified illumination. Success in isolating the organisms has not yet been reached.

FOREIGN NEWS

Deaths in the Profession Abroad.—Christian Böhr, the leading physiologist of Denmark, professor of the University of Copenhagen, died February 3, aged 56. He was a pioneer in work on the gases in the blood and the gaseous interchanges in the lungs and had recently worked out an ingenious method for determination of the output of blood for the heart beat. He would soon have completed his twenty-fifth year as teacher at the university, and a *Festschrift* is in press intended for that occasion, but which now will serve as a memorial.——G. Mya, an eminent pediatrist of Italy, professor of medical pathology and later of pediatrics at the University of Florence for thirty years, died February 6, aged 63.——James Edward Pollock, F.R.C.P.; one of the oldest fellows of the Royal College of Physicians, London; a pioneer specialist in and writer on tuberculosis; died at his home in London, December 18, aged 92.

Pellagra in Italy.—An official commission has recently been appointed in Italy to study the application of the newer views of the etiology of pellagra. At the first meeting the fine results accomplished to date by the regulations adopted in the last few years were emphasized. In 1888 Italy had 117 pellagrins for each 1,000,000 inhabitants and 80 in 1903. The antipellagra law was then passed and the number was reduced to 39 per 1,000,000 in 1908. The pellagrins formed 7.9 per cent. of the inmates of the insane asylums in 1903, while in 1908 they were only 3.5 per cent. Alessandrini ascribes the disease to a parasite in drinking water and Tizzoni to a special streptobacillus, and both these men are in the commission, so the matter will be thoroughly studied. If either of them is right, then the benefit realized to date by the measures based on the assumption that spoiled corn is responsible for pellagra, is due merely to the improved hygiene. Antonini stated that research in the United States is confirming the corn theory.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, Feb. 17, 1911.

The Refilling of Medical Prescriptions

The Société de thérapeutique, some time ago, appointed a commission to investigate and report on the regrettable practice of refilling prescriptions (previously mentioned in The Journal, Feb. 4, 1911, p. 360). The commission found nothing in existing laws which applied to the subject. It offered to the society the following resolutions, which were adopted: 1. When a physician writes a prescription calling for a poisonous drug, the prescription should name, in accordance with the law, the prescribed quantity of the toxic substance, the mode of administration of the medicine, and when necessary, the maximum number of times the prescription may be filled without fresh authorization. 2. Whenever a pharmacist fills a prescription calling for a poisonous substance, he should place his stamp and a new number on it, even if this prescription is already on his register. 3. Prescriptions for solutions for hypodermic use should never be refilled without special authorization of the physician who has prescribed them.

Measures Against the Plague

It is reported from Russia that Professor Zabolotny, who has returned from a tour of investigation in the far East, states emphatically that at present neither Siberia nor European Russia is threatened with the plague. This optimistic assurance, however, fails to quiet public alarm in view of the frightful rapidity with which the plague has spread southward among the people of the yellow races. In spite of the activity of the Russian and the Japanese governments, which are aided by a knowledge of the customs and the language and therefore find the population with which they have to deal more tractable, the situation is a grave one, all the more that the portion of the Manchurian region under Japanese control is only a small part of the immense Chinese empire, and that the Chinese administration has shown itself so unequal to the situation that Chinese physicians themselves have refused their assistance so long as the sanitary administration is not organized along European lines.

In France, the parliamentary commission of hygiene has just decided to ask the minister of the interior to hasten the meeting of an international conference to study the means of checking the epidemics of plague and cholera. Moreover, Dr. Broquet, of the Institut Pasteur, has just left for Manchuria, taking with him a large number of chests containing ampullas of Haffkine's serum, which are intended for our soldiers and countrymen sojourning in the threatened localities of the far East. It is felt that the time has come to organize in defense of the civilized world a new scientific expedition to China for the study of this scourge, like that which studied the bubonic plague in Bombay in 1897.

The Name of Malta Fever

The governor of the Island of Malta recently complained that the name of "Malta fever" was not suitable for a disease which is found all along the Mediterranean coast as well as in other countries not bordering on the Mediterranean. The question was laid before the Académie de médecine, which appointed a commission to study the subject. Professor Widal, who presented the report of the commission, proposed to replace the name of "Malta fever" by that of "Mediterranean fever." Professor Blanchard objected that this term seemed scarcely better justified than Malta fever, since the disease is found in other regions. Geographical names, moreover, have the disadvantage of being restricted and incomplete. Blanchard, therefore, proposed to call the disease "undulating fever" (*fièvre ondulante*). Professor Chauffard preferred the name "melitosis," which has the advantage of recalling the cause of the disease, the *Micrococcus melitensis*. Drs. Landouzy and Vaillard supported Chauffard's proposition, on the ground that, in man, the undulating character of the fever may not be evident in the abortive forms and that, moreover, though the *Micrococcus melitensis* produces an undulating fever in man, its manifestations in animals are quite different.

Agitation Among Students in Dental Surgery

A delegation of students in dental surgery has laid before the Chamber of Deputies a petition protesting against the reservation of certain posts, such as that of surgeon-dentist of the hospitals, for doctors in medicine alone. The students believe that, since five years of study, attested by a series of difficult examinations, are demanded of surgeon-dentists, the latter should have the right to compete for the post of surgeon-dentist on the same terms as doctors in medicine.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, Feb. 16, 1911.

Pay Wards in Municipal Hospitals

The question of the establishment of wards for pay patients in the municipal hospitals, of which I have written several times, has lately made some progress. The administration has agreed to the suggestions of the commission which has been considering this matter. All that is needed now is the consent of the city council. According to the resolution, a special building with fifty to sixty beds is to be erected in connection with the surgical clinic at the Moabit Hospital as an experiment, the beds to be available for paying patients of the so-called middle class. These patients, as a rule, are to be placed in small wards of from three to five beds. A number of single rooms is to be provided for patients who need temporary isolation. This section of the hospital is for the benefit of those members of the middle class who are not in position to pay higher fees without too much of a drain on their means. The daily fee for care including the physicians' services amounts to $1.60 (6.50 marks). For the more important operations a special fee as high as $25 (100 marks) may be charged. Also other special services are to be compensated at moderate fees. If patients are received whose circumstances warrant it, higher fees may be charged and in such cases the physician may make special charges. The decision as to whether the circumstances warrant higher or lower charges is reserved to the city authorities.

Regulation of Automobile Traffic

At the request of the Royal Automobile Club of Bavaria the Munich Ophthalmologic Society has made the following report in regard to the requirements for the visual capacity of automobile drivers: 1. The lowest capacity of the eye with the better vision must be 2/3, and of the eye with the poorer vision 1/3 of the normal. The highest permissible correction is + 8.0 diopters. Spectacles and reserve spectacles with an arrangement to protect the glasses from rain and snow must be provided. 2. A retraction of the field of vision which is distinctly demonstrable with the perimeter even in one eye, is a disqualification. 3. A reduction of the sensitiveness to light also disqualifies. 4. Congenital color blindness is not to be considered. 5. Ptosis, paralysis of the eye muscle, considerable disturbance of the mobility of the pupil, aphakia and especially external inflammations, which are accompanied by photophobia, for instance, render the applicant unfit. 6. Goggles are recommended. 7. There should be reexamination every two years.

Statistics of Curative Treatment of Tuberculosis

From the latest statistics of the Imperial Insurance Office on the curative treatment of tuberculosis in the institutions for invalid insurance, a number of important results can be deduced especially because they extend over the period from 1897-1909. During this time, 275,000 patients with pulmonary tuberculosis have received prolonged expert treatment, costing in all over $25,000,000 (100,000,000 marks) Since 1897, the number of men treated for tuberculosis of the lungs has increased more than eleven times and that of women nearly eighteen times. The cost of treatment has continually increased in correspondence with the increased cost of living. The average expense for a tuberculosis patient in 1897 was $76 (307 marks), in 1909, $96 (386 marks) The expense for a day's treatment has risen from $1 (4.05 marks) in 1897 to $1.35 (5.41 marks) in 1909. The treatment of patients with pulmonary tuberculosis was carried out in the so-called people's sanatoria. There are thirty-seven establishments for treatment of diseases of the lungs and thirty-four sanatoria, convalescent homes and hospitals, which are essentially sustained by the invalid insurance societies. On account of the well-known difficulty of keeping a patient who has a family to support in the sanatorium for a sufficient length of time, the law provides for aid to those dependent on the patient, allowing half of the amount paid for sickness by the Krankenkassen or one-fourth of the day's wages; in some cases this is doubled or even tripled. Unmarried insured patients in many cases are assured especial allowance for illness according to the rates of the Krankenkassen, up to one-fourth of the day's wages. In this way, between 1897 and 1909 the sum of $4,250,000 (17,000,000 marks) was paid to relatives and for the special sick benefit; in 1909, $37,000 (148,000 marks) was paid. The results obtained each year at the close of the treatment have been followed for five years so that the latest statistics give the conclusions for nine such periods of five years. In the last eight control periods the initial successes compared with the first period have risen in tuberculous men from 4 to 13 per cent. and in tuberculous women from 5 to 15 per cent. The end-results, on the other hand, have risen from 3 to 19 per cent. in tuberculous men and from 3 to 20 per cent. in tuberculous women. The women treated in all the control periods show a markedly greater permanence of the cure than the men, a result which must be referred to the more marked vitality of women. While at the end of 1901 of 100 men treated for tuberculosis in 1897 only twenty-five had preserved the favorable initial result, the number of those treated in 1905 who showed a continuance of the cure in 1909 was forty-four. On the other hand, for every 100 tuberculous women treated in 1897 at the end of 1901 there were thirty-two able to work and of those treated in 1905 at the end of the year 1909 fifty-two were still able to work. These numbers show also that from year to year better results have been achieved in the treatment of tuberculosis. Of the patients treated in 1909, 1,215 men and 5,826 women were found at the beginning of the curative treatment in the first stage according to the Turban-Gerhardt classification: 9,161 men and 3,399 women in the second stage; 3,550 men and 1,154 women in the third stage. Of all three stages there were at the close of the treatment 535 men and 358 women in stage O. The first stage showed in comparison with the beginning an increase of 1,489 men and 521 women, while the second stage showed a decrease of 1,475 men and 757 women; the third stage a decrease of 553 men and 122 women. In order to reach as completely as possible those persons whose health is endangered the military examinations have been put at the service of the campaign against tuberculosis. It has been arranged that the data regarding the health of those examined for military service by the military surgeons should be communicated to the tuberculosis authorities. In 1909 the organization learned of 575 tuberculous patients in this way.

Improvement of Instruction in Pediatrics

The pediatric society has called attention in memorials addressed to the governments of the various federal states to the insufficient opportunities for instruction in diseases of children in most of the German universities and has made the following demand: It is imperatively necessary that every university possess a children's clinic with a modern infant ward (of at least sixteen beds and some nurses), and a policlinic for children, separate from that for adults. These institutions should be under the direction of a special professor who is to have a voice in the faculty in matters pertaining to the pediatric department. Two hours a week for only one semester are not considered sufficient for attendance on these pediatric clinics. The importance of diseases of children in practice makes an examination in this department necessary for the state license, and this examination should be held by a special professor and rank in importance with the examination in internal medicine. How far these demands will be accepted by the government remains to be seen. Many university professors and many physicians take the position that pediatrics should not be regarded as a specialty, but that it falls properly in the field of instruction in internal medicine and in practice belongs to the sphere of the family physician. This conception is justly opposed. The field of investigation in pediatrics has widened so much in late years that its facts cannot be sufficiently considered in the instruction in internal medicine, and the difficulties in diagnosis and therapeutics in the practice of diseases of children require occasionally the counsel of a specially educated pediatrician, although it must be admitted that every practitioner should understand so much of pediatrics that he will have a sufficient experience for ordinary cases.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Feb. 23, 1911.

Sudden Death of Professor Escherich

The news of the death of Professor Escherich, the well-known professor of pediatrics, will without doubt be received with great regret by the numerous American doctors who have been working under him in this city. His clinic was a Mecca for all these men, for it hardly had its like in Europe as regards the advantages for study. Besides, Escherich himself was a very good teacher, who understood how to captivate the thoughts of his students and to direct them to certain roads of reasoning. Out of the great number of his pupils von Pirquet's name is familiar to all practitioners. Escherich's efforts were directed to the prevention of infantile mortality by recommending breast-feeding in all cases, and by the institution of milk distribution for those who were unable to obtain it in a sufficiently pure state. His school is famous for the chemical and biologic researches undertaken under his supervision; the discovery of the *Bacillus coli* is due to one of his earliest undertakings in this line, and has made his name a household word in scientific medicine. He was the representative pediatrist invited to present this specialty at the Congress of Arts and Sciences at the St. Louis Exposition in 1904. He was only 54 years of age when his brilliant career was closed by an attack of apoplexy, brought on by an early arteriosclerosis.

Celebration of Washington's Birthday

This national festival was celebrated in Vienna by a reception in the halls of the embassy of the United States, where Mr. Richard C. Kerens, the ambassador to the Austrian court, gave a formal evening to the members of the American colony at present living in our city. A large number of those present were doctors, members of the American Medical Association of Vienna, which at present is flourishing as never before. The ambassador is a frequent guest in the headquarters of the Association, and thus excellent relations are kept between the two "powers."

BUDAPEST LETTER

(From Our Occasional Correspondent.)

Budapest, Feb. 7, 1911.

State Protection of Children in Hungary

Hungary is justly proud of her system of caring for dependent children, of whom there are now 50,000 in the special institutions provided for them by the Hungarian government. In addition to this large number at present under its protection, the state has previously had 50,000 other wards who either have since been given back to their parents, or, having reached their fifteenth year, have been dismissed from the charge of the state. The system in vogue is generally regarded as one of the foremost humanitarian institutions of the civilized world, and has been lauded as such at recent international congresses of hygiene and child welfare, while experts come to Hungary from all parts of the civilized world to study the details of the methods.

DETAILS OF THE SYSTEM

The homes for children consist of seventeen large buildings in different parts of the country. Every child who has no supporter, or whose maintenance and education are not sufficiently ensured, either on account of poverty or bad hygienic conditions or other adverse circumstances, has a legal right to be cared for by the state. He is not obliged to sue for admission, but he can present himself and claim admission on the ground of legal right. Nowhere else in the world does a child possess such a privilege. In Germany, for instance, the child has no such right, as regards the state, and deserted children are referred to the village charity. In France such cases have to be brought to the notice of the county council.

ABSENCE OF RED TAPE

Another prominent feature of the Hungarian system is that no documents are necessary for proving the fact of a child's abandonment. The Hungarian homes, therefore, take in any child who appears not to be under proper guardianship, and only after the state has received him into its care will inquiries be made through the Society for Protection of Orphans as to whether he is really dependent on the state's care or not. Illness among the children in these homes is treated by medical experts, who have at their command a large number of wet-nurses, assistants, incubators and all necessary surgical appliances, constituting a well-equipped modern hospital.

HEALTHY CHILDREN BOARDED OUT

Healthy children are not brought up in the institutions as "hot-house specimens of humanity," not knowing the trials and troubles of life. Such children are placed by the state in suitable households of the artisan or agricultural class, where they grow up as members of the family and ultimately become useful Hungarian citizens, irrespective of their former nationality. Even though such families are carefully chosen, the state still reserves the right of control. For this purpose, the services of the county physician are requisitioned, extra payment being made for this work. He is required to assure himself as regards the health of the children, their bodily and mental development, and their condition with respect to cleanliness and clothing. In the case of infants, he must supervise the feeding of the child and take its weight from time to time. The state will shortly appoint a lady supervisor, in addition to the already existing district medical officers. Her duties will be the carrying out of the details prescribed by the medical officer and repeated visits to the foster-families, wherein she will take the part, not so much of a government official, as of an aunt to the adopted child and a relative of the family. In the event of the foster-parents proving unsuitable, she will have the child removed to more appropriate surroundings.

TIES OF RELATIONSHIP FOSTERED

The intercourse between the child and its blood relations does not cease when it becomes the ward of the state. This is not the case in other countries; in Paris, for instance, as soon as a child is taken in [illegible] nother is not allowed to apply for [illegible] ore than four times a year. In [illegible] a very different system prevails. It often happens that, in the case of infants, the mother and child are not only separated, but, if the mother requires it, suitable accommodation is provided for her by the state. In the case of children the mother is requested to visit the child, and, as far as possible, to help in its up-bringing. Should she in any case be of the opinion that her child's surroundings are unsuitable to its proper physical or mental development, she can, by reporting this to the state authorities, have the child removed elsewhere, even though her complaints should be due merely to a mother's natural anxiety. Should the mother's or the relations' or even the child's circumstances change, so that the child could be brought up at home, the mother may at once reclaim the child without being put to the expense of any reimbursement of its past maintenance.

SUPERVISION OF STATE CARE BY CITIZENS' ASSOCIATION

The relations between the child and state are controlled by an independent body called the Orphans' Protection Society, which is chosen from among the citizens of the community and is invested with magisterial authority. The result is expected to be a decrease in infant mortality, and also in the number of juvenile criminals, because it has been found that the majority of such criminals were those who had been abandoned to chance in their early years.

MORAL WELFARE OF CHILDREN GUARDED

The Hungarian government also takes measures to prevent the corruption of children's morals. By an order of the minister of the interior, children are taken charge of by the state if it is found that they are being brought up in immoral surroundings. Children in such a case, even though the parent may be in a position to provide for all physical wants, are removed from these evil influences.

EXPENSE TO THE STATE

By protecting children in these various ways, the state is accomplishing a great work which cannot fail to have a beneficial effect on the whole Hungarian people. The yearly expenditure by the state for the protection of children amounts to $2,000,000.

The Outlook for Medical Men in Hungary

The number of medical men in Hungary is increasing constantly, but the prospects of the practitioners are not increasing at the same rate. This is chiefly important for a large percentage of the present doctors in Hungary, for as an investigation conducted by a medical corporation in this country shows, fully 32 per cent. of all medical students and recently graduated doctors come from the poorest and often lowest strata of the population. Therefore medical organization could not be successful in this country, for the newly qualified M.D. is always willing to do anything to earn even a small living as quickly as possible. The Hungarian ministry for education has just now ordered that the holders of diplomas gained abroad (Austria included) can apply for the right to practice only under the condition that they produce proofs of having passed examinations absolutely equivalent to those required from a medical student in Hungary (knowledge of Latin, Greek, an equal curriculum, and the same subjects as are required in Hungary).

Marriages

Joseph B. Cox, M.D., to Miss Dollie Clements, both of Howell, Ind., March 1.

Ebb. C. Johnston, M.D., to Miss Madge Good, both of Chattanooga, Tenn., February 23.

Eugene D. Regan, M.D., to Miss Marion Smith, both of Milwaukee, Wis., February 22.

A. F. McKay, M.D., to Mrs. Laura V. Smith, both of Colorado Springs, Colo., February 22.

Eugene E. Coerper, M.D., Fredonia, Wis., to Miss Madeline A. Oppen of Milwaukee, February 22.

Pauline I. Myers Townsend, M.D., and Lawrence A. Hanson, both of Marshalltown, Ia., recently.

Harry William Ackermann, M.D., Rockford, Ill., to Miss Maud Goodspeed of Elgin, Ill., February 21.

Isaiah J. Waterman, M.D., Creston, Ia., to Miss Rachel Kegley of Colfax, Ia., at Des Moines, February 20.

Claude W. Asbury, M.D., Hymera, Ind., to Miss Abby Lucas of Sullivan, Ind., at Terre Haute, Ind., February 21.

Frank M. Humphrey, M.D., Bluemont, Va., to Miss Lillian Rosa Belle Talbott, at Washington, D. C., February 22.

Frank John Hirschboeck, M.D., Chisholm, Minn., to Miss Elizabeth Robertson Carmichael of Lansing, Mich., February 16.

Deaths

Walter Remsen Brinckerhoff, research worker and pathologist, who spent five years as director of the Molokai (H. I.) Leprosy Investigation Station of the U. S. P. H and M.-H. Service; died at his home in Jamaica Plain, Boston, Mass., March 2, from pneumonia, aged 36. Dr. Brinckerhoff graduated from Harvard University in 1897, and from Harvard Medical School four years later. His expert training in pathology was obtained in the laboratory of the Boston City Hospital, where he was successively intern and second and first assistant in pathology. In 1902 he was made assistant in pathology in his alma mater. Two years later he was made a fellow of the Rockefeller Institute for Medical Research, and in 1905 was appointed physician to the Carnegie archeologic expedition to the Transcaspian Territories. He made researches on the white cells of the blood and small-pox, carrying on the latter work in Boston in 1901 and 1902, and in Manila in 1903 and 1904. In 1906 he was placed in charge of the Leprosy Investigation Station at Molokai, and remained there for nearly five years, returning a few months ago to accept the assistant professorship of pathology in Harvard University. He was a member of the Massachusetts Medical Society, the American Association of Pathologists and Bacteriologists and the Society of Experimental Medicine. Dr. Brinckerhoff was highly esteemed by his associates, and his untimely death deprives the scientific world of a notable research worker.

William Worrall Mayo, M.D., pioneer surgeon of Minnesota, died at his home in Rochester, March 6, aged 91. He was born near Manchester, England, received his preliminary education at Manchester College, and took his medical lectures at the Indiana State Medical College in 1852, and at the University of Missouri Medical Department, Columbia, from which he received the ad eundem degree of M.D. in 1854. He first settled in Lafayette, Ind., but soon moved to Rochester, Minn. He was for many years a member of the American Medical Association and was president of the Minnesota State Medical Association in 1872. Soon after his arrival in Minnesota he was made surgeon-in-chief of the provost-marshall's office for the southern district of Minnesota. Dr. Mayo was the pioneer surgeon of the northwest and established a reputation which has resulted in making Rochester the surgical Mecca of the United States.

Albert Sydney Ashmead, M.D., of New York City; research worker in leprosy, pellagra and Asiatic diseases; died in Jefferson Hospital, Philadelphia, February 20, after an operation for disease of the intestines, aged 60. He received his medical degree from the University of Pennsylvania, Philadelphia, in 1869, and four years later was appointed foreign medical director of the Tokyo Fu Hospital, Tokyo, Japan. He also taught the first class of students in the Tokyo Charity Hospital Medical School. After three years he returned and practiced in Doniphan County, Kan.; and while there was local surgeon for the St. Joseph and Grand Island Railroad. In 1882 he removed to New York City. He was one of the founders of the Berlin Leper Conference of 1897, and contributed largely to the literature of leprosy.

Thomas Berton Davis, M.D. University of Louisville, Ky., 1869; a member and formerly president of the Arizona Medical Association; organizer and first president of the Yavapai County Medical Society; a pioneer physician of Arizona; formerly medical cadet and acting assistant surgeon, U. S. Army, with Civil War service; died at his home in Prescott, February 17, from intestinal obstruction, aged 66. At a special meeting of the Yavapai County Medical Society, resolutions were unanimously adopted setting forth the high personal and professional attainments of Dr. Davis, and expressing regrets at his death. These resolutions were endorsed by the druggists of the city.

Edwin H. Carter, M.D. Eclectic Medical Institute, Cincinnati, 1865; Rush Medical College, 1897; for several years a member of the Iowa State Board of Health; and State Board of Medical Examiners; vice-president of the Iowa Public Health Association; formerly professor of surgery and clinical surgery, theory and practice of medicine and clinical medicine, and dean of the faculty of Drake University Medical Department; died at his home in DesMoines, February 24, from cerebral hemorrhage, aged 74.

James Crawley Donoghue, M.D. *cum laude*, Harvard Medical School, 1897; of Boston; a member of the American Medical Association; instructor in histology in his alma mater; and last year appointed instructor in diseases of the blood in Tufts College Medical School; physician for twelve years at the Boston Dispensary and visiting physician to St. Mary's Infant Asylum; died at the home of his parents in Georgetown, Mass., February 26, aged 46.

Franklin Cooley, M.D. University of Louisville, Ky., 1848; surgeon of the Tenth Missouri Volunteer Infantry and Seventh Missouri Volunteer Cavalry during the Civil War; for sixteen years a member of the local pension examining board of Lexington, Mo.; founder of the first medical college in Kansas City, and professor of surgery for three years; died at the home of his daughter in Kansas City, February 16, aged 90.

Edward Hitchcock, M.D. Harvard Medical School, 1853; senior professor and professor of hygiene and physical education in Amherst (Mass.) College and of physical culture and hygiene in Cornell University; a pioneer in the physical training of students, and the author of a number of text-books on physiology and anatomy; died at his home in Amherst, February 15, aged 82.

Floyd Preston Sheldon, M.D. University of Michigan, Ann Arbor, 1878; an eye and ear specialist of New York City; and a director and vice-president of the Citizens Loan and Saving Association; oculist and aurist to the Home for the Friendless, and consulting oculist to the Webb Home; died at his home in New York City, February 18, from nephritis, aged 53.

Thomas James Manahan, M.D. Harvard Medical School, 1899; assistant surgeon on the hospital ship *Bay State* during the Spanish-American War; a member of the staff of the Massachusetts General Hospital, and proprietor of the McDonald Hospital, Corey Hill, Brookline; died in that institution, February 14, from pneumonia, aged 37.

Francis M. Greene, M.D. Jefferson Medical College, 1860; a member of the Kentucky State Medical Association; for more than half a century a practitioner of Fayette County, Ky.; acting assistant surgeon U. S. Army during the Spanish-American War; died at his home in Lexington, February 19, from senile debility, aged 77.

Homer Baxter Sprague, M.D. Bellevue Hospital Medical College, 1881; a member of the Medical Society of the State of New York; for twenty-six years a practitioner of Yorkville, New York City, and a prominent social worker; a member of the State Lunacy Commission; died at his home, February 25, from pneumonia, aged 51.

Carroll Thrasher, M.D. Cooper Medical College, San Francisco, 1900; at one time police surgeon of San Francisco, and superintendent of the small-pox hospital; and later surgeon on a steamer plying between San Francisco and Panama; died suddenly at his home in San Francisco, February 10, from heart disease, aged 34.

Llewellyn Thomas Botsford, M.D. New York Homeopathic Medical College, New York City, 1878; for several years health officer of Colton, N. Y., and for six years coroner of St. Lawrence County; a member of the board of education of Canton for many years; died at his home in Potsdam, February 8, from diabetes, aged 58.

Stephen Tabor Birdsall, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1868; New York Homeopathic Medical College and Hospital, New York City, 1868; a member of the American Electrotherapeutic Association; died at his home in Glens Falls, N. Y., January 27, from cerebral hemorrhage, aged 65.

James Kelley Farnum, M.D. University of Michigan, Ann Arbor, 1870; surgeon for the Pere Marquette and Grand Trunk systems for several years; died in the City Hospital, Port Huron, Mich., February 11, from shock following the amputation of a foot as the result of a street-car accident four days before, aged 64.

Benjamin Franklin Cessna, M.D. University of Michigan, Ann Arbor, 1852; Jefferson Medical College, 1858; for many years a trustee of Ohio Wesleyan University, in which he endowed a chair of English language and literature; died at his home in Kenton, Ohio, January 1, from acute gastritis, aged 84.

John C. Nottingham, M.D. Bennett Medical College, Chicago, 1873; a veteran of the Civil War; at one time treasurer of Delaware County, Ind.; a charter member and one of the organizers of the Saginaw Valley Medical Society; died at his office in Bay City, Mich., February 25, from heart disease, aged 69.

Alexander S. Stewart, M.D. Eclectic Medical Institute, Cincinnati, 1865; a pioneer practitioner of South Dakota; a veteran of the Civil War; and a member of the legislature from Pawnee County, Neb., in 1869; died at his home in Hot Springs, S. Dak., January 22, from nephritis, aged 71.

Hannibal Amilcar Beeson, M.D. Miami Medical College, Cincinnati, 1879; for many years a practitioner of Leesburg, Ohio; hospital steward and assistant surgeon in the Navy during the Civil War; died at the home of his son in Roswell, N. M., February 11, from angina pectoris, aged 69.

Thomas K. Reed, M.D. University of Pennsylvania, Philadelphia, 1864; vice-president and one of the organizers of the First National Bank of Atlantic City, N. J.; a surgeon of volunteers during the Civil War; died at his home in Atlantic City, February 12, from heart disease, aged 72.

Charles Spinning Cowan, M.D. Miami Medical College, Cincinnati, 1880; formerly president of the Shelby County (O.) Medical Association, and Siskiyou County (Cal.) Medical Society; died at his home in Fort Jones, Cal., Nov. 26, 1910, from angina pectoris, aged 60.

John A. Rynard, M.D. Jefferson Medical College, 1872; formerly councilman and a member of the school board of South Harrisburg, Pa.; local surgeon for the *Pennsylvania System* at Goldsboro from 1880 to 1888; died at his home in Harrisburg, February 10, aged 71.

Alonzo R. Stephens, M.D. Albany (N. Y.) Medical College, 1865; a member of the Bradford County Pension Board; assistant surgeon in the Federal service during the Civil War; died at his home in Herrickville, Pa., February 10, from heart disease, aged 75.

Philo Kelly Stoddard, M.D. Buffalo (N. Y.) Medical College, 1848; surgeon of the One Hundred and Sixty-First New York Volunteer Infantry for two years during the Civil War; died at his home in Prattsburg, N. Y., February 3, from gastritis, aged 85.

Caleb Horace Closson, M.D. Jefferson Medical College, 1872; a member of the Medical Society of the State of Pennsylvania; first secretary of the Altoona Board of Health; died at his home in that city, February 24, from cerebral hemorrhage, aged 62.

E. B. Harrell, M.D. Tennessee Medical College, Knoxville, 1907; a member of the American Medical Association, and of the pension board of Unicoi County, Tenn.; died at his home in Unicoi, Nov. 23, 1910, from typhoid fever, aged 35.

William J. Middleton, M.D. Kentucky School of Medicine, Louisville, 1891; a pioneer practitioner of Idaho; for many years a member of the Idaho State Medical Association; died at his home in St. Anthony, January 13, from paresis.

Wallace Deane Carr, M.D. University College of Medicine, Richmond, Va., 1908; a member of the Medical Society of Virginia; a specialist in diseases of children; died at his home in Richmond, February 24, from heart disease, aged 35.

Amy Garrison Brown Kimball, M.D. Cleveland College of Physicians and Surgeons, 1878; for three years intern in the Northeastern Hospital for Women, Boston; died at her home in Jackson, Mich., January 29, from pneumonia, aged 63.

Emmet Densmore, M.D. New York University, New York City, 1885; of New York City; an apostle of natural food and simplicity in living and diet; died at his cottage in Cassadega, Fla., February 19, from tuberculosis, aged 73.

John J. Sweeney, M.D. College of Physicians and Surgeons, Baltimore, 1910; of Govanstown, Baltimore; died in Mercy Hospital, February 18, from the effects of bichlorid of mercury, self-administered in mistake for candy, aged 25.

Nellie Knowles Horn, M.D. Fort Worth (Tex.) University, 1908; a member of the Tarrant County Medical Society; died at her home in Altus, Okla., January 16, eight days after an operation for cancer of the uterus, aged 36.

Jesse W. Buell, M.D. New York Homeopathic Medical College, New York City, 1877; attending physician to the Rochester (N. Y.) Homeopathic Hospital; died at his home in that city, February 17, from pneumonia, aged 59.

Thomas E. Briggs, M.D. Saginaw Valley Medical College, Saginaw, Mich., 1903; of Saginaw; a member of the Michigan State Medical Society; died at the Saginaw General Hospital, February 23, from pneumonia, aged 32.

Arthur B. Ralph, M.D. Washington University, St. Louis, 1859; of Orrick; a member of the Missouri State Medical Association; died at the home of his daughter in Orrick, February 17, from pneumonia, aged 74.

Gustavus Adolphus Tucker, M.D. Jefferson Medical College, 1854; for thirty-one years an employee of the *Chattanooga Times*; died at the home of his daughter in Hill City, Chattanooga, Tenn., February 10, aged 82.

Joseph W. Bourne, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1889; formerly of South Auburn, Neb.; died at his home in Omaha, February 14, from arteriosclerosis, aged 53.

George W. Seymour, M.D. New York Homeopathic Medical College, New York City, 1872; for more than forty years a practitioner of Westfield, N. Y.; died at his home, February 13, from pneumonia, aged 69.

David Dunn Martin, M.D. Starling Medical College, Columbus, O., 1851; (license, Okla., 1908); a practitioner for nearly sixty years, died at his home in Newkirk, Okla., February 5, from cancer, aged 82.

James M. Patterson, M.D. University of Nashville, Tenn., 1859; a Confederate veteran; formerly a member of the Tennessee legislature; died at his home in Verona, Tenn., February 18, aged 82.

Rufus C. Corey, M.D. Homeopathic Medical College of Missouri, St. Louis, 1887; of Seattle, Wash.; died in the City Hospital, February 13, from the effects of an overdose of morphin, aged 46.

William G. Mangold, M.D. College of Physicians and Surgeons, New York City, 1889; of Brooklyn, N. Y.; died in the Brooklyn Hospital, February 15, from cerebral hemorrhage, aged 47.

Edward Clay Reid, M.D. Louisville (Ky.) Medical College, 1875; president of the school board of Tulsa, Okla.; died at his home in that place, Nov. 20, 1910, from acute nephritis, aged 58.

Napoleon B. McKay (license, Kansas, 1901); of America City; for fifty-four years a practitioner of Kansas; died at the home of his daughter near America City, February 4, aged 84.

James Kennedy Johnstone, M.D. Victoria College, Coburg, Ont., 1870; government inspector of electric meters; died at his home in Toronto, Aug. 12, 1910, from pneumonia, aged 61.

Lee Washington Fulton, M.D. Rush Medical College, 1869; of New Berlin, Ill.; a practitioner for fifty-four years; died at the home of his son in Alexander, Ill., February 18, aged 73.

Sands Macamly Davis, M.D. New York University, New York City, 1853; died at his home in Sugar Loaf Valley, Mass., January 8, from organic heart disease, aged 81.

Henry J. Weyl, M.D. Eclectic Medical Institute, Cincinnati, 1875; a veteran of the Civil War; died at his home in Decatur, Ill., February 23, from prostatic hemorrhage, aged 75.

Albert Seessel, M.D. University of Leipsic, Germany, 1876; of New York City; died in the German Hospital, New York City, Dec. 24, 1910, from lobar pneumonia, aged 60.

Henry Lewis Perney (license, Iowa, years of practice, 1886); for nearly half a century a practitioner; died at his home in Wilton, February 13, from cancer, aged 74.

Charles Westley Throckmorton, M.D. Western Pennsylvania Medical College, Pittsburg, 1909; died at his home in Johnstown, Pa., February 16, from pneumonia, aged 23.

Joseph E. Ferte, M.D. Ecole de Médecine et de Chirurgie, Montreal, 1853; died at his home in Livingston, Mont., February 12, from cerebral hemorrhage, aged 78.

John F. Michael, M.D. College of Physicians and Surgeons, Baltimore, 1885; died at his home in Morgantown, W. Va., Sept. 26, 1910, from prostatitis, aged 70.

Frank B. Behner, M.D. Kentucky School of Medicine, Louisville, 1902; of Marion, Ohio; died in Richmond Township, February 19, from tuberculosis, aged 30.

George Thomas Borden, M.D. Hahnemann Medical College, Philadelphia, 1876; died at his home in Caledonia, N. Y., February 14, from nephritis, aged 57.

N. W. Williams, M.D. Tulane University, New Orleans, 1875; formerly of Holly Springs, Miss.; died at his home in Gulfport, Miss., February 21, aged 53.

Mathew Wilkinson Ross, M.D. Jefferson Medical College, 1889; died at his home in Scranton, Pa., Sept. 3, 1910, from sarcoma of the lower jaw, aged 56.

Constantine H. Murphy, M.D. Washington University, St. Louis, 1854; died at his home in Chesterfield, Ill., February 13, from heart disease, aged 83.

Jeremiah B. Dustin, M.D. Medical College of Ohio, Cincinnati, 1874; died at his home in Bidwell, O., February 17, from cerebral hemorrhage, aged 62.

William M. Glass, M.D. Medical College of Indiana, Indianapolis, 1871; died at his home in Summitville, Ind., January 27, from nephritis, aged 80.

[**Dr. Daniel Franklin Royer** is not dead; see California news, this issue.]

Association News

THE LOS ANGELES SESSION

List of Meeting Places and Section Hotels—The Northern Railroad Routes

We give here a schedule of meeting places for the various sections and other gatherings and of the hotels designated for the various sections. A map of Los Angeles will be published in the special number of The Journal to be issued in May giving full details of the session. Some information about the meeting is being published in each issue of The Journal. For example, a list of hotels, with description and rates, appeared February 18, page 527.

THE NORTHERN RAILROAD ROUTES

Dr. M. L. Harris, Chicago, chairman of the Committee on Transportation, makes the following announcement, continuing the subject of railroads from the issues of the past few weeks:

The northern routes include the Northern Pacific, the Chicago, Milwaukee & Puget Sound, the Great Northern and the Canadian Pacific railroads, and, for a part of the distance, the Oregon Short Line. All of these routes lead to the northwest, namely, to Vancouver, Seattle, Tacoma and Portland.

On the Canadian Pacific the mountain scenery is perhaps the most beautiful on this continent, and this part of the great Rocky Range frequently has been called the Alps of America. On the other lines, although the mountain scenery is very beautiful, the greatest attraction is undoubtedly the Yellowstone Park. All those who have not visited this great National Park should not fail to improve this opportunity to see the wonderful geysers, the lake, the beautiful Yellowstone falls, the deep canyon with its gorgeous colorings, and many other interesting formations.

There are many beautiful and interesting sights along the Columbia River, including the great salmon fisheries, which are the largest in the world.

The Shasta route between Portland and San Francisco is justly famous, for the stateliness and grandeur of Mount Shasta is unsurpassed.

For those who enjoy the water there is an excellent line of boats between San Francisco and Portland.

The rate over any of these northern lines is $62.50 round trip from Chicago, plus $15 arbitrary for the coast line, but attention is again directed to the fact that this rate is not available for both going and returning by a northern route.

As it requires so much time thoroughly to see and enjoy the Canadian Rockies, Yellowstone Park and the other places of interest, it is suggested that it is perhaps better to go by one of the southern or central routes and to return by a northroute; stop-overs on the return trip may be had at almost any place and for any length of time within the final limit of the ticket, September 15.

SPECIAL TRAINS

Announcement of special trains will be made in The Journal in the issue of March 25. All who are concerned in the arranging of special trains to Los Angeles from any part of the United States, or from Los Angeles on the return trip, are asked to notify The Journal at once with full particulars so that this announcement may be complete.

Correspondence

Federation of Women's Clubs Starts Educational Campaign in Social Hygiene

To the Editor:—It may be of interest to your readers to know that the General Federation of Women's Clubs, with a membership of 800,000, has decided to take up an educational campaign on social hygiene. A committee of three physicians and one lay woman was appointed by the president to start the work. The opportunity is a great one, but the task of doing it wisely and yet of facing the facts honestly is no small one. A large number of women in the federation are not even acquainted with the name "social hygiene;" a still larger number are afraid of the subject.

Our experience in Illinois has been of the most encouraging nature. In the last four years a committee, consisting of a number of women physicians and some lay members of the Chicago Woman's Club, in cooperation with the Chicago Woman's Club and the Chicago Society for Social Hygiene, carried on extensive educational work.

Before almost every club in the city and in the state one or more lectures on social hygiene have been given. Members of the committee have also spoken before mothers' meetings and fraternal organizations. Several public courses of lectures, including the anatomy and physiology of the organs of generation, embryology, sexual awakening, dangers of syphilis and gonorrhea, have been given at the Chicago Woman's Club, at the Chicago Public Library, and at the Chicago Academy of Science. The audiences in many cases were large and apparently took the profoundest interest in the subject.

(*Continued on page 761*)

LIST OF SECTION MEETING PLACES AND HOTELS

Section, etc.	Name of Hall	Location of Hall	Hotel Headq'ters	Location of Hotel
General Hotel Headquarters			Alexandria	5th and Spring
Registration	Hamburger (4th floor)	8th and Broadway		
House of Delegates	Armory	7th and Spring		
Commercial Exhibit	Hamburger (4th floor)	8th and Broadway		
President's Reception	Shrine Auditorium	655 W. Jefferson		
Smoker	Hamburger (roof garden)	8th and Broadway		
Scientific Exhibit	Hamburger (4th floor)	8th and Broadway		
Information, P. O., etc	Hamburger (4th floor)	8th and Broadway		
Practice of Medicine	Majestic Theater	8th and Broadway	Lankershim	7th and Broadway
Nervous and Mental Diseases	Walker (McKinley)	7th and Grand	Westminster	4th and Main
Diseases of Children	Walker (Lincoln)	7th and Grand	Westminster	4th and Main
Dermatology	Blanchard (Broadway)	3d and Broadway	Hollenbeck	2d and Spring
Pathology and Physiology	Blanchard (Symphony)	3d and Hill	Hollenbeck	2d and Spring
Surgery	Baptist Auditorium	5th and Olive	Alexandria	5th and Spring
Genito-Urinary Diseases	Blanchard (Music)	3d and Hill	Hollenbeck	2d and Spring
Obstetrics	Baptist Aud. (Berean)	5th and Olive	Hayward	6th and Spring
Preventive Med. and Public Health	Hamburger's	8th and Broadway	Alexandria	5th and Spring
Pharmacology	Walker (Garfield)	7th and Grand	Lankershim	7th and Broadway
Ophthalmology	Parish (2d floor)	6th and Olive	Van Nuys	4th and Main
Laryngology and Otology	Parish (1st floor)	6th and Olive	Angelus	4th and Spring
Stomatology	Dental College	5th and Wall	King Edward	5th and Los. A.

[The Local Committee on Arrangements sends the above schedule of meeting places and of the hotels designated as headquarters.]

This committee feels very strongly that in order to awaken similar interest among women all over the country, the cooperation of physicians is absolutely necessary. Physicians are the properly qualified people to discuss the dangers of disease, as well as to teach the lay public the principles of health in a rational and scientific manner. The lay public must understand these principles if we are to have an advance in the control of venereal disease. The principles of ignorance on matters of health and disease have been the methods of the past and have served us very poorly.

The committee has sent out letters to all state federations of women's clubs requesting them to urge the clubs in their federations to have at least one meeting during the months of March and April on the subject of social hygiene, advising them to apply for speakers to the physicians in their locality.

The committee has also suggested that the following outline be substantially adhered to by the clubs: (1) How prevalent is gonorrhea? (2) How is it contracted and communicated? (3) What are its dangers to mother and child? (4) What is its treatment and how can it be exterminated? (6) How prevalent is syphilis? (7) How is it contracted and communicated? (8) What are its dangers to mother and child? (9) What is its treatment and how can it be exterminated?

This apparently extreme outline for lay clubs is deemed necessary because the temptation to dodge the real issue is too great.

It is hoped that the physicians in each community will respond to the request on the part of women's clubs for such lectures.

RACHELLE S. YARROS, M.D.,
Chairman Social Hygiene Committee of the General Federation of Women's Clubs.

The Septic Tank

To the Editor:—THE JOURNAL, Dec. 10, 1910, contains an editorial on the septic tank in which there is a quotation from the well-known sanitary engineer, Mr. Rudolph Hering. The quotation does not fairly represent Mr. Hering's views, and the general trend of the editorial is hardly in keeping, apparently, with the present state of engineering thought.

It is true that the former septic tank has proved a disappointment; it is true that the sludge so treated is often more difficult to manage than the untreated sewage; it is true that not unfrequently the rising sludge breaks up the scum, and creates a disagreeable condition; but it is not true that the septic tank idea is being abandoned.

In the Emscher Valley, in Germany, there is a sewage district of 308 square miles, containing a population of about 2,000,000 persons, and the population is rapidly increasing. Dr. Ing. Karl Imhoff, of Essen, is the Chief of the Sewerage Department (*Abwasserabteilung*) of the Emschergenossenschaft. The Emscher, or, as it is more frequently called, the Imhoff tank is proving thoroughly satisfactory. In that German district there are seven now in operation, serving 250,000 persons. Ten more are being built, and thirty additional tanks are projected for the district. In America, a trial tank has been in operation for some time at Philadelphia, and another is located at the Thirty-Ninth Street testing station of the Chicago Drainage District. A large tank is under construction at Holmsburg, near Philadelphia, and another is being built to care for the entire sewage of Atlanta, Ga. According to a recent number of the *Municipal Engineer*, Erie, Pa., is to construct one, on the advice of Mr. Hering. Similar tanks have been advised for Batavia and Oswego, N. Y.

In the *Engineering News*, Dec. 1, 1910, Mr. Hering says: "It was apparent to me that the sludge question, which had been the *bête noire* for 30 years, was nearing a satisfactory solution. The Imhoff tank, based on what had appeared to me a rational principle, was completely fulfilling its promises of two years before by transforming the compacted suspended matter into inoffensive humus material. The reason for this inoffensiveness was a complete digestion under favorable conditions, of all the material that usually becomes foul."

The gases arising are approximately 75 per cent. marsh gas, and 25 per cent. carbon dioxid. (In the articles of Dr. Imhoff in the *Engineering Record*, and by Hering and Saville in the *Engineering News*, the carbon dioxid is called monoxid, but in a private communication to me Dr. Imhoff corrects the misstatement.) Saville says that it has only been necessary to remove the sludge from some of the tanks once or twice a year. In others it was done more frequently. The removed sludge is inoffensive, and when spread on the drying beds becomes spadeable in from one to four days.

The test tank in Chicago is by the side of the Dortmund test tank. The effluent from each is perfectly clear, but whereas that from the Dortmund tank is very offensive, on account of the large amount of hydrogen sulphid contained, that from the Imhoff is as sweet as spring water.

The drying bed for the Bochum, Germany, plant, which cares for the sewage of 145,000 persons, is only half an acre in size, and the entire sewage of Schwerin, Mecklenburg-Schwerin, is treated within sight of the ducal palace, without offense.

HENRY B. HEMENWAY, M.D., Evanston, Ill.

[COMMENT:—We are at a loss to understand the statement in the first paragraph of the above communication regarding the views of Mr. Hering. If Mr. Hering's own words do not represent his views, we cannot understand why he should have written them or whose views they do represent.

As regards the Imhoff tank, our correspondent is evidently unfamiliar with the history of septic tank treatment, with the characteristics of the Imhoff tank itself and with current nomenclature. The Imhoff tank, as is well-known among sanitary engineers, is so arranged that the sewage with which it is filled is not allowed to reach a "septic" condition. The Imhoff tank is ordinarily spoken of as a purification tank or, as Mr. Saville calls it in the article cited by Dr. Hemenway, "strictly speaking a clarification tank." The distinction between the Imhoff tank and what for many years has gone under the name of septic tank is clear and sharp, and is thoroughly understood by practical workers in this field. —EDITOR.]

Encouragement of the Nostrum Evil by "Reputable" Physicians

To the Editor:—Permit me to ask a question. Why is it that medical men of repute will write articles for so-called medical periodicals whose advertising pages are reeking with advertisements of the worst nostrums, the very kind that the presumed leaders of the profession have set their faces against? I have before me a sample copy of such a periodical making a specialty of surgery. The leading article is written by an eminent surgeon of Baltimore, who specializes in gynecology. What are we to think about such doings? If he is of the rank and file that fight the nostrum evil, why does he not write only for such periodicals as have taken up this fight?

A. E. CONTER, M.D., Apalachicola, Fla.

[COMMENT.—We do not know why reputable physicians will write for such medical journals as those described by our correspondent. Probably for the same reason that equally reputable men will allow their names to appear as "associate editors" or "collaborators" in connection with the same kind of journals. The most disheartening phase of the fight for decency and truthfulness in medical advertising is the apparent indifference, on the part of many physicians of high standing, to the character of the advertising found in medical journals for which they subscribe and to which they contribute. As has been stated time and again in THE JOURNAL, if physicians would insist that the journals they patronize shall be as clean in their advertising pages as they are in their editorial pages, the evils connected with the "proprietary" business would be solved in six months. So long as the leading members of the medical profession give financial support—as subscribers—and moral support—as contributors—to those medical journals whose advertising pages are a disgrace to medicine, so long will the great American fraud—as it relates to the medical profession—flourish. So long, too, will these journals that are trying to be decent labor under a grievous disadvantage.—EDITOR.]

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WANTED—FICTION EXTOLLING THE AIMS OF PHYSICIANS

To the Editor:—Kindly send me the names of books—modern fiction—in which the aims and ideals of modern physicians are extolled. Monte Stern, M.D., South St. Paul, Minn.

Answer.—To reply to our correspondent's query with anything like completeness would require much time and original investigation. It would be well worth doing, however, and we suggest the subject as an inviting one to some physician with literary tastes. If our readers will inform us of books which they have found worthy of commendation along this line we will make up a list and print it in this column for the benefit of all. Such a list will doubtless be of service, as a suggestion for gifts, for placing on reception-room tables, and for the leisure reading of persons interested in the lives of physicians, etc.

THE MANDELBAUM TEST IN TYPHOID FEVER

To the Editor:—Will you kindly publish in your department of Queries and Minor Notes the method of carrying out and the value of Mandelbaum's test in typhoid fever? E. D. W.

Answer.—Mandelbaum's method for rapid and early differentiation of typhoid was described in The Journal, March 5, 1910, page 827, with illustrations of the pipettes used and of the negative and positive reactions as observed in the hanging drop. Corroborative testimony as to its value was mentioned in The Journal, Aug. 6, 1910, page 543, and a few other writers since have endorsed its value, especially for detection of healthy bacillus-carriers. It does not seem to have been given much of a trial in this country to date.

TUBERCULOSIS SANITARIUMS—PUBLIC AND PRIVATE

To the Editor:—Can you supply me with a list of the tuberculosis sanitariums in this country, both private and public? Walter Rittenhouse, M D., Lake Geneva, Wis.

Answer.—A book entitled "The Campaign Against Tuberculosis in the United States, Including a Directory of Institutions Dealing with Tuberculosis in the United States and Canada," may be obtained from Dr. Livingston Farrand, 105 East Twenty-Second Street, New York City. This is a cloth-bound book of 467 pages and gives much other information besides that mentioned in the title. The price is $1.

REMOVAL OF IMPACTED CERUMEN FROM THE EAR

To the Editor:—The removal of hardened wax from the ear is often a tedious matter, because of the time required to soften it with the usual solution of soda, glycerin and water. I have found that a mixture of acetic acid 1 part and water 3 parts has no injurious effect and will soften the wax *very quickly. It may* be dropped in and allowed to soak, or used with a syringe in large quantities. A. T. Blachly, M.D., Woodstock, Ore.

Answer.—Hydrogen dioxid is another efficient agent. It should be dropped carefully into the ear, with due regard to the pressure that may be caused if the escape of the resultant foam is hindered.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 4, 1911.

Wolven, Homer F., D.S., reports for temporary duty at Boise Barracks, Idaho.

Ford, Joseph H., major, ordered to duty with troops from Fort Wadsworth, N. Y., to Fort Crockett, Texas.

Stallman, George E., D.S., granted three months' leave of absence about June 15, 1911.

Woodbury, Frank T., major, granted leave of absence for one month and ten days, about April 21, 1911.

Dean, Elmer A., major, granted leave of absence for one month, about March 1, 1911.

Wheate, J. Marshall, M.R.C., orders to proceed to the Philippine Islands for duty is revoked.

Wheate, J. Marshall, M.R.C., relieved from duty at Fort Lincoln, N. Dak., and ordered to Boise Barracks, Idaho, for duty.

Clarke, Joseph T., lieut.-col., assumed temporary charge of office of chief surgeon, Department of the Columbia, and as attending surgeon, department headquarters.

Welles, E. M., Jr., lieut., ordered to proceed from Army General Hospital, San Francisco, to Presidio of Monterey, Cal., for temporary duty.

Kremers, E. D., lieut., left Presidio of San Francisco, en route to San Francisco, for duty as surgeon, U. S. Army transport *Buford*, during the trip to China and return.

Field, Peter C., major, relieved from duty at Fort Slocum, N.Y., and ordered to Philippines division for duty on the transport sailing from San Francisco about June 5, 1911.

Miller, Reuben B.; Eastman, William R., and Hall, James F., captains, ordered to Washington, D. C., on May 22, 1911, for examination to determine their fitness for promotion.

Stallman, George E., D.S., ordered to Fort Clark, Texas, for temporary duty.

Kellogg, Preston S., M.R.C., granted leave of absence for one month.

Qualls, Guy L., M.R.C., recently appointed, is ordered to Jefferson Barracks, Mo., for duty.

Connelly, Philip B., M.R.C., recently appointed, is ordered to Fort Monroe, Va., for duty.

Mitchell, Leopold, M.R.C., recently appointed, is ordered to Washington Barracks, Washington, D. C., for duty.

Baker, Frank C., major, left Fort Moultrie, S. C., on tour of inspection of Medical Department, North Carolina National Guard.

Newlove, George, M.R.C., reports arrival at Fort Sam Houston, Texas, for temporary duty in the field.

Myers, William H., M.R.C., reports for temporary duty at Fort Moultrie, S. C.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended March 1, 1911.

White, J. H., surgeon, granted eighteen days' leave of absence from Feb. 16, 1911, without pay.

Earle, B. J., P. A. surgeon, granted ten days' leave of absence from March 1, 1911.

Lloyd, B. J., P. A. surgeon, directed to proceed to Spokane, Wash., on special temporary duty, Feb. 28, 1911.

Creel, R. H., P. A. surgeon, directed to make such trips as may be necessary in investigation of oyster beds of Virginia, Feb. 17, 1911.

Turnipseed, D. C., asst.-surgeon, directed to proceed to Manila, P. I., and report to chief quarantine officer for duty, Feb. 16, 1911.

Stiles, C. W., professor of zoology, detailed with the mine rescue car of the department of the interior on special temporary duty Feb. 14, 1911.

Allan, A. Smith, A. A. surgeon, granted seven months' leave of absence from April 1, 1911, without pay.

Hasse, P. F., A. A. surgeon, granted seven days' leave of absence from Feb. 11, 1911, under paragraph 210, Service Regulations.

McLarty, A. A., A. A. surgeon, granted thirty days' leave of absence from Feb. 25, 1911.

Schug, F. J., A. A. surgeon, granted thirty days' leave of absence from Feb. 18, 1911.

Storrs, H. R., A. A. surgeon, granted thirty days' leave of absence from March 1, 1911.

Wood, J. E., A. A. surgeon, granted fifteen days' leave of absence from Feb. 24, 1911.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

CONFERENCE ON MEDICAL EDUCATION AND ON MEDICAL LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION

Seventh Annual Conference, Held in Chicago, March 1-3, 1911

Dr. Arthur Dean Bevan in the Chair

Dr. A. D. Bevan stated that as chairman of the Council on Medical Education of the American Medical Association he had for seven years made a special study of medical education including the conditions in foreign countries. From this study the following conclusions may be drawn: First, medicine has to-day a science just as chemistry and physics are sciences. The art of medicine to-day rests as firmly on a scientific basis as does the practical application of chemistry and engineering, and as there can be but one science of chemistry, so from now on there can be but one science of medicine. The fads and "pathies" that existed under the old empirical practice of medicine become impossible in the light of modern scientific medicine. A thorough training in the sciences on which medicine is based is now essential and a thorough familiarity with disease processes in the living patient must be mastered before the student is permitted to begin practice.

A close analysis of all the facts and a careful study of the results arrived at in other countries leads to the conclusion that the minimum amount of training which will make of a medical student a safe practitioner of medicine is the following: After graduating from high school he should have at least one year of training in physics, chemistry and biology; two years in the science of anatomy, physics, pharmacology and pathology; two years in the study of medicine, surgery, obstetrics and the specialties, with the opportunity of studying these subjects in the dispensary and hospital, and lastly a year's practical training as an intern in a hospital.

The program of this conference has been framed for the purpose of presenting in detail this conception of the essentials in modern education. I hope that as a result of this meeting the medical schools and the state boards represented will use all the influence in their power to secure, as soon as possible, the adoption of these requirements in their own schools in their own state.

Progress and Needs in Medical Education

DR. N. P. COLWELL, Chicago, Secretary of the Council on Medical Education: Changes for the better in medical education have been particularly rapid since 1904 when the Council on Medical Education was organized. Up to that year the number of medical colleges continued to increase regardless of the frequently published references to the overcrowded condition of the profession and reports showing the need of better rather than of a larger number of medical colleges. The increase in number continued until in 1904 the maximum of 166 medical colleges was reached, constituting practically half of the world's supply.

Since 1904, however, there has been a decrease in the number of colleges until now the number has been reduced to 129. Of the forty-four colleges closed since 1907, twenty colleges were closed outright, and twenty-four by merging with others. This decrease has been due to the closing of weak and inferior colleges, or by the merging of two or more medical colleges, forming in each instance one invariably stronger and better equipped college. Instead of a serious matter, therefore, this decrease in the number of medical colleges has been of positive benefit, resulting as it has in the formation of fewer but better colleges.

Since 1904 there has also been a decided advancement in the standards of admission. Until 1904, only three or 1.9 per cent. of all medical colleges were requiring for admission more than a high-school education, but now 41 or 31.8 per cent. (nearly one-third) of all colleges are requiring for admission one or more years of collegiate work, and the teaching of medicine as a whole has been placed more largely on a university basis.

In the last seven years, however, other radical improvements in medical education have taken place. College terms have been lengthened, new methods of teaching have been adopted, more salaried teachers have been employed, more endowments secured, new buildings erected, better laboratories and laboratory equipment installed and better hospital connections and clinical facilities secured. In the last year, several of the larger medical schools have received large donations, have been thoroughly reorganized, have built teaching hospitals, and have adopted higher standards of admission. And reports of other similar changes of importance have continued to come in.

Under the methods and conditions which still exist, there is scarcely any person so ignorant that he cannot gain admission to some medical college. So long as an applicant can pay the required fee, there are still colleges which are only too glad to accept him regardless of his lack of preliminary education. The low-standard colleges referred to can exist only in states where the laws regulating the practice of medicine are inadequate or are not enforced.

The solution of many of the problems of medical education rests in the hands of the state licensing boards and doubtless will be solved by them if they are given a fair chance. In many of the states, the medical boards are seriously handicapped. In the first place, as a rule, the board is too closely connected with politics, and in some states the members are appointed largely for political reasons, and are liable to be changed with every turn of politics. It is often difficult, therefore, to get good men to accept places on the board. In several states, the board is not given full authority in the premises. Either it is hindered, because of a very poor practice act, or the authority is limited or divided by the establishment of special boards for the various medical sects, which make impossible a satisfactory regulation of the practice of medicine. In the fifty states and territories of the Union there are eighty-three different licensing boards—counting the osteopathic.

At most, there should be but one board in each state; that should be a permanent board and should be composed of men appointed for their particular skill in the examining and licensing of physicians, and not for political reasons. If possible, the board should have a permanent secretary who is selected by the board and who is not subject to removal with every change of governors.

Not only should there be but one board in each state, but there should be a single educational standard to which every applicant for license to treat the sick, by whatever means or method, should comply. Let there be but one portal of entry to the practice of medicine. All who are to treat human ailments, no matter whether they are regulars, homeopaths, osteopaths, or the followers of any other school, are alike in that they must make a diagnosis; they must be capable of differentiating between the various diseases in order to treat intelligently the patients who may come to them.

Entrance Examinations

DR. THOMAS S. FISKE, Secretary of the College Entrance Examination Board, New York City: Certain classes of men may be admitted to the study of medicine with comparative safety on the basis of credentials issued by their former teachers. These are: (1) college graduates and students who have completed at least a part of a college course, when they can present credentials issued by some college in good standing showing that they have studied physics, chemistry and biology, in addition to the fundamental elements of an ordinary education; (2) graduates of accredited high schools, who have completed a four-year course in which the subjects just mentioned have been included. The North Central Association of Colleges and Secondary Schools, like several other similar associations, has prepared a list of accredited high schools whose credentials are recognized by a large number of colleges and universities. In addition to candidates belonging to the two classes already specified and able to present satisfactory credentials, there are numbers of young men who every year demand the privilege of being admitted to the study of medicine. In this number will be: (1) college men and high-school graduates whose credentials do not cover all the required preliminary studies; (2) candidates from unaccredited institutions, that is, from colleges and schools which have not received the privilege of issuing acceptable credentials; (3) candidates of irregular preliminary education, such as those who have been prepared by private tutors, have studied in correspondence schools or in extension courses, or are self-taught. In this irregular class will be included naturally all students who have attended accredited high schools without completing the school course.

Standing at the point of contact between the secondary school and the college, the fundamental principle first in order of importance is that of cooperation between school and college. The board represents a cooperation between the colleges on the one hand, and the secondary schools on the other in respect to a matter of vital importance to both. The secondary schools as well as the colleges have a voice in framing and administering the policies of the board. In the second place, the College Entrance Examination Board does not itself assume power or claim a right to formulate definitions of the requirements for admission to college. In the third place, while the board represents a combined effort on the part of many colleges, it is provided that no college shall surrender its own individuality. Each institution preserves the right to enforce such standards of excellence as it pleases or to make such allowance as it wishes for character and capacity on the part of students applying for admission. The certificate issued by the board states merely that the holder was examined at a stated time and place in specified subjects, and, as the result of such examinations, received the ratings entered on the certificates.

The following manifest advantages of the examinations held by the College Entrance Examination Board are: 1. They are uniform in subject-matter. 2. They are uniformly administered. 3. They are held at many points to meet the convenience of students at one and the same time. 4. They represent the cooperative effort of a group of colleges, no one of which thereby surrenders its individuality. 5. They represent the cooperation of colleges and secondary schools in respect to a matter of vital importance to both. 6. By reason of their uniformity they aid greatly the work of the secondary schools. 7. They tend to effect a marked saving of time, money and effort in administering college admission requirements.

Subjects Included in the Two Years of College Work Required for Admission to Medical Colleges

DR. CHARLES R. BARDEEN, Madison, Wis.: During the two years of college work required by the majority of medical colleges which can afford to maintain high preliminary standards, about half the time should be devoted to physics, chemistry, biology and English. The other half should be divided between the study of foreign languages and one or more non-technical studies such as art, history, economics, civics, mathematics and philosophy. The aim of this preliminary college work should be to produce breadth of view as well as to give some understanding of scientific knowledge and methods

Five-Year Medical Course

DR. J. G. ADAMI, Professor of Pathology, McGill University, Montreal: From an educational point of view the great danger of democracy lies in the fallacy that since every individual has the right to equal opportunities all individuals must be given the same opportunities. As a consequence, precise and cast-iron regulations would become the order of the day, and one fixed curriculum would be laid down as the *sine qua non*, whereby at 10:30 a. m. across the whole continent, from the Atlantic to the Pacific and from the Polar regions to the Gulf of Mexico, in country school and crowded city, the individual who has attained to a certain standard in a certain year of the course is being taught the subject-matter of a particular chapter of a particular book on a particular subject. In medical education, it is essential that there be established a minimum of knowledge, and also a minimum time requisite for the acquirement of that knowledge. The Council on Education of the American Medical Association has accomplished a work, the value of which it is difficult to estimate, in making this recognized, and in establishing what should be the minimum. Nevertheless, this minimum should not be regarded as the optimum, and no cast-iron routine should be established to which every medical student should be subjected. Hence, in speaking of the five-year course in medicine, now in operation in the leading Canadian schools, it is not deemed essential that all the medical schools of the continent should adopt such a course. There might be other medical schools having a similar environment, however, which might obtain the best results educationally by establishing a similar course.

Two main reasons led McGill University, four years ago, to change from the four to the five-year system. The first was to make sure that the students possessed a sound training in the preliminary sciences, biology, chemistry, physics, etc. The second reason was to insure thorough hospital training, and to afford adequate time for clinical work. Since our students came from a wide area in a young country, a certain number possessed no opportunity for instruction in the elementary sciences, and as a matter of economy of effort it was better that McGill should have the supervision of the courses in those sciences, rather than that the students should attend courses not specially devised for medical students. Educationally, the graded course bearing a definite relationship to future teaching is of foremost value. It might be well if the courses in physics, chemistry and biology were not delivered in the medical college itself, but in the laboratories of another faculty; it might also be well if the actual teachers were not medical men. Nevertheless, the teaching of these elementary branches should be given with special reference to the future needs of the student. As a matter of fact it was found possible to give the ordinary medical student as sound and generally useful a course in these preliminary sciences in one year as ordinarily consumed two years in the arts or academic course.

This is not the optimum; the man who desires to do so might well take a complete academic course or to specialize in certain scientific branches. It is necessary, however, to fix a minimum for the ordinary students, the men who at most look forward to ordinary practice, and who constitute the bulk of students in the medical school.

Briefly, the objects in the development of the curriculum at McGill have been: (1) to give a sound course in the preliminary sciences subjects; (2) to make the courses from the third to the fifth year as practical as possible; (3) to observe a natural sequence in the various courses; and (4) to give the maximum of hospital instruction with the freest employment of the wards and of bedside instruction.

Equipment and Instruction of the Laboratory Years

DR. E. P. LYON, Professor of Physiology, St. Louis University School of Medicine: The chief function of a medical school is to make good physicians. The good doctor must be an accurate observer; for training observation anatomy and its related sciences are valuable. He must be a skilful experimenter; chemistry, bacteriology, physiology and pharmacology are preeminently experimental sciences, and each has its peculiar methods and value for medical training. The good physician must further be a man who is able to interpret the facts gained by observation and experiment; all the sciences are valuable as training for this power, but pathology is especially useful. The sciences fundamental to medicine are, therefore, justifiable in the medical curriculum on account of their disciplinary value.

The scientific instruction must be in the hands of professional scientists, not practitioners of medicine. These men must be provided with proper laboratories for teaching and research, with equipment, materials, libraries and assistance. Anything less than this provision is to disregard the model which the school is trying to realize, namely, the good physician.

The laboratory work should be conducted by the professors and not by cheap assistants. If the right men are chosen for heads of departments, the choice of specific equipment may be left to them. The state boards would do well to insist that the colleges have trained instructors, rather than publish lists of required equipment which may or may not be used.

The powers of good observation, experimentation and judgment are necessary for the technical work of the physician. But on account of his intimate relation to the people he needs many other traits which may be summed up as character. The medical school can do little by precept but much by example. The medical teachers should be men of character and culture.

Instruction and Equipment of the Clinical Years

DR. GEORGE BLUMER, Dean of the Medical Faculty, Yale University: The problem of teaching in clinical years is a threefold one. The student should receive a training in the fundamental principles of medicine, surgery and obstetrics. He should also receive a practical training in physical and clinical diagnosis and surgical technic and should have an opportunity to apply the principles and technic by actual contact with patients. The proportion of clinical and didactic teaching as methods of imparting fundamental training should be determined by local conditions. There is an unfortunate tendency to overemphasize didactic teaching. On the contrary technical training in clinical and physical diagnosis should be by laboratory methods. There is a marked advantage in the use of living animals in teaching surgical technic. The contact of students with individual patients is the keynote of the fourth year of instruction. A system of clinical clerks is desirable. In regard to the equipment necessary there should be laboratories with sufficient microscopic and other necessary apparatus for each student; a dispensary especially equipped for teaching with abundant material and a hospital especially equipped for teaching under competent medical school control. The greatest needs at present are proper endowment and properly paid and well-trained men in the clinical years. There is also a lack of absolute control of hospitals by medical schools.

DISCUSSION

MR. ABRAHAM FLEXNER, New York City: It is absolutely necessary that the function of passing on preliminary credentials or holding preliminary examinations should be taken away from the medical schools, and in the case of independent medical schools and of medical departments which nominally or actually belong to universities, the entire business of passing on credentials should be handed over to the academic department. Even this latter step will not insure us any more conscientious or intelligent passing on credentials than the medical department is in the habit of giving, and the more one becomes familiar with the details of administration of American colleges and universities, the more one is inclined to think that the medical schools are not in that matter the only offenders. There are very few colleges or universities that handle the subject of admitting students either intelligently or conscientiously. The recent reports of the president of the Carnegie Foundation show that the admission requirements of American colleges are, without exception, largely nominal; that is to say, the conditions are such that students are so freely admitted and the conditions under which they are admitted are such that it is difficult for any institution with which I am acquainted to make clear the precise basis on which entrance conditions are enforced. The remedy and improvement for this condition are more likely to come if we can secure concentrated criticism and publicity regarding entrance records of the American colleges than if the responsibility is distributed among a great many registration offices or township offices largely without any of the necessary facilities for dealing with records intelligently.

DR. CHARLES W. DABNEY, President of the University of Cincinnati: The authors of these papers have thrown light on the difficult problem of medical education from different points of view. One of the most gratifying observations is that wherever we find advanced entrance standards, the colleges having such high standards have prospered and are prospering. That has been true everywhere, and I am delighted with the progress being made in the advancement of medical education. A thought that has come to me in my own experience in the last few years is that we are in danger of making our methods in medical colleges too mechanical, too fixed, and I hope that some one will tell us how we are going to overcome that. I would like to enter a protest against too mechanical requirements. In our institution we are conscientious in the enforcement of entrance requirements. A general thought I would advance is this: in medical schools, as in engineering schools and colleges of liberal arts, we are introducing too many mechanical methods. We want educated men. We want to produce men who can observe and think and reason. Four years is a desperately short time to give a man an education. He can be given a start, and can probably be trained to observe and to think in that short period of time.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: We must not have cast-iron rules in the teaching of medicine; we must have diversity. We must not expect any two medical schools to teach medicine in exactly the same way. The individual teacher must always be given a certain amount of freedom in the management of his department. I do not expect to dictate to the professor on physiology how he shall teach physiology. If he is a capable man, that must be left to him. I recognize that the fifth-year medical course, adopted in the Canadian medical schools, as referred to by Professor Adami, is applicable to, and probably must be adopted by, certain schools in the United States, but I do not believe that it is comparable with the six years combined course. I do not believe it is so good.

DR. HENRY A. CHRISTIAN, Boston: Of the various methods of increasing the curriculum, three general suggestions have been made. One concerns itself with the increasing the required hours within the assigned time. More has been said about that in the past year than this year. The result of that suggestion has been that the curriculum has been crowded. The limit has been reached already. At present, our curriculum needs energetic surgical treatment. In other words, we need to reduce materially the number of subjects taught, and the number of hours of required work. So far as the curriculum is concerned, leaving it as a four-year curriculum, the war cry now should be simplification. A second method suggested of increasing the curriculum has been along the lines of increasing the preliminary requirements of students before they enter a medical school. We have gradually increased the standard of medical education by increasing the preliminary preparation of the medical student. The method of pediatrics can well be applied to that phase of the subject; we should continue to feed the preliminary requirements until students gradually grow to a larger size. It may be that breast milk, or modified milk, will be best for the infant, but the infant at the present time to my mind needs a little more food and a little more growth. A third method suggested of improving the curriculum has been by the addition of a fifth year. Dr. Wesbrook, of the University of Minnesota, proposed that the fifth year shall be a hospital year. In discussing that paper I offered certain objections, not to the student having as much clinical experience as he could possibly get, but to incorporating a fifth year in the medical curriculum and making the medical school responsible for that hospital year.

SYMPOSIUM ON STATE LICENSE

Valuation of Credentials

DR. FRANK B. HILLER, Secretary Missouri State Board of Health: There rests on a medical licensing board a responsibility and duty threefold in character: (1) that highest and greatest duty of safeguarding the public against the unworthy acts of the unqualified who desire to engage in the practice of medicine; (2) the duty of demanding of the institutions teaching medicine and surgery, that these schools and colleges shall so measure up to the standard of equipment and teaching capacity as to permit none to leave their halls with the degree of M.D. except those who are well-rounded and qualified morally and professionally to take their places in the ranks of a profession whose standards and knowledge are advancing with remarkable rapidity of force; (3) that of dealing justly and adequately with the applicant as he appears before such a board, an aspirant to have conferred on him the legal right to engage in the practice of the profession he has chosen. The standards demanded by the board must and necessarily do form the basis from which the valuation is computed, and the quality and uniformity of requirements constitute the rock on which reciprocity suffers injury, and in many instances wreckage. In other words, uniformity of medical requirements and standards exacted by all examining boards in the country is the ideal for which we are working. The agitation by the American Medical Association has brought about many reform methods in the examining boards. The work of the Association necessarily has been along the lines of agitation and education, the Association not having within itself the legal power to enforce the requirements it has advocated. The state examining boards, however, in practically all states, are supported by statutory law enabling them to enforce many or all of the advanced requirements that have been set forth by the Council on Medical Education, and all boards should vigorously assume the responsibility and boldly and justly administer the duties with which they are charged.

Interstate Reciprocity

DR. W. T. GOTT, Secretary Indiana State Board of Medical Registration and Examinations: Under our form of government the physician's license makes him a professional prisoner in the state which granted him his license. If the exigencies of climate, fortune, or business make it necessary for him to change his location to some other state it is necessary that his qualifications be again tested, and he must undergo another examination. Is this right? If the United States is one country and one people, is it fair or reasonable to require a citizen to submit to forty-eight examination tests in order to demonstrate his fitness to practice medicine in this country? Under our form of government by federated states, however, that is necessary unless some plan of interstate agreement can be secured that will in a measure nationalize the licensing of physicians. That plan is by interstate reciprocity by which due weight is given by one state to credentials obtained from a sister state whose requirements and standards are substantially equivalent to those of the state of proposed residence.

Some men hold that such reciprocity agreements cannot be fairly entered into until all states secure uniform practice acts and uniform requirements; and without question such uniform legislation and requirements would be a great advantage to society, to the individual and to the public. However, if no attempt has been made to establish reciprocity relations between states until all states have adopted by legislative enactment uniform medical practice acts, the millennium would have been reached before a single license would have been issued through reciprocity.

In recognition of a strong demand in the profession, some states entered into reciprocal agreements as early as 1901, and at present the majority of states have such agreements with certain other states. Reciprocity in medical licensure, if conscientiously administered, has a favorable influence on educational standards. State practice acts are not apt to be weakened or the standards lowered since that would endanger the reciprocal relations with other states. Medical colleges also are urged to keep their standards high since their students are thereby made eligible to registration through reciprocity in a larger number of states.

So long as cults in the healing art exist, it is a serious mistake, in my opinion, to provide for each a separate board of medical examiners. The administration of such boards is consciously or unconsciously influenced, biased, and unnecessary temptation is put in the hands of such boards to be lax in passing on the credentials of applicants of their own system of practice. The credentials issued by a board composed entirely of representatives of one system of practice should not be acceptable for a certificate through reciprocity and such a ruling would have a salutary effect in upholding the standard of educational qualifications throughout the country.

Examinations

DR. WILLIAM S. FULLERTON, *St. Paul:* The primary object of a state board examination is not to protect the physician against the unlicensed man, but the one and only object for the existence of the state board is to protect the public against the incompetent practitioner of medicine, and on that ground, and that alone, state boards rest. So long as the appointment of a state medical examining board is a political favor for party allegiance, irrespective of selecting the best men for the position, just so long will the public fail in being protected to the degree to which they are entitled. Men appointed on boards of examiners should not be behind those who are teaching the subjects in colleges, and they should not be subject to removal at the end of a short term. They should be chosen on the recommendation of the medical profession to the appointive power. These men should have facilities, both financial and otherwise, for carrying on the examinations.

Discussion on State License

DR. HERBERT HARLAN, Maryland: Are examinations as now conducted the best method of testing a candidate's fitness to practice medicine? I should say, unqualifiedly, no; they are not. I believe that a practical examination is feasible, but not on every subject in every department; but I believe that it can and will be slowly introduced. I recognize that there are many difficulties in the way. The Maryland law says that the examination shall be written, but when we succeed in having the law amended, as we hope to do, practical examinations will be provided for.

DR. G. B. YOUNG, United States Public Health and Marine-Hospital Service, *Chicago:* My experience on an examining board has led me to arrive at the conclusion that a high school certificate is very indefinite as far as giving a reliable test of the candidate's educational fitness to study or to practice medicine is concerned. What we want in education preliminary to study of medicine, as I understand it, is not simply the acquisition of certain knowledge which makes the acquisition of subsequent medical knowledge easier, but such a training of the student's mind will produce a candidate who is intellectually fit to master the problems which are presented in acquiring a medical education, and has ability to apply that knowledge to practice. Is it not worth while for the organized boards to consider the propriety of including in their examination some test or means of ascertaining the definite value to be assigned to the certificates which are presented?

DR. CHARLES H. COOK, Natick, Mass.: Boards of registration in medicine are to protect the public or the citizens of the commonwealth, and the members are state officials, rather than physicians, appointed to those positions, not for the benefit of physicians primarily, but to protect the public. It is a question whether the power of officials of one state can be delegated to the officials in another state. So far as I know, this point has never been carried to the courts. If it were, I would be interested to know what the decision would be.

MR. ABRAHAM FLEXNER, New York City: None of the European countries I have visited—France, Germany, Austria or England—still makes exclusive use of the written examination. Although they all to some extent employ a written examination, the emphasis falls strongly on the practical features. One hears in America many different objections to the introduction of the practical examination. In some instances the laws seem hostile. Whether the law which prescribes a written examination could not really be circumvented, so that a practical examination, so far as the answers go are concerned, can take more or less a written form, I do not know. I should think it not impossible that a little ingenuity expended on that point might bring forth some interesting results and avoid the necessity of recasting the state law. It is alleged, also, that the numbers to be examined in this country are fatal to the introduction of the practical examination. I believe that the Minnesota State Board, for example, is not now embarrassed by the question of numbers. I suspect that any state board now undertaking to examine its candidates practically will find that the embarrassment due to the popularity of the examination will prove decreasingly important. As a matter of fact, if the practical examination were introduced, I believe it would be found that the question of numbers would cut no figure whatsoever. The most efficient practical examination which it was my good fortune to witness was also the largest from the standpoint of numbers, this examination having been held by the Conjoint Board, in London, England.

DR. GEORGE H. MATSON, Columbus, O.: The Ohio State Board has undertaken practical examinations in physical diagnosis. We have now finished three examinations of this kind. The applicants who have appeared before us have been called on to test their ability on patients who were suffering with various cardiac and pulmonary diseases, with enlarged livers and spleens, and some of them with incipient nervous affections, tabes particularly, and one or two patients with hemiplegia. We secured these patients from the county infirmaries and from the dispensaries, and the first exhibition of this practical examination was remarkable. Formerly, we had at our June examination from 240 to 250 applicants, but since we have established practical examinations we are having from 125 to 140.

Universal reciprocity can never obtain for three reasons: first, because universal uniformity can never obtain in medical colleges. Second, universal laws can never obtain in a progressive body of states, and, third, we can never have uniformity in the personnel of medical boards, so that when we speak of having universal reciprocity we can only look in the future to the minimum medical requirement and never to a maximum. Practical examinations are a reality, and not a theory.

Evening Session

Standards and Authority

PROF. GEORGE EDGAR VINCENT, President-Elect of the University of Minnesota: Physicians are rightly regarded as social servants; their skill and fidelity are obviously vital to the community. Yet this view is far from universal. Individuals by tens and thousands see in a medical career chiefly a means of livelihood. They resent the rising standards of medical education as obstacles to the early enjoyment of an income. Many of these individualists resort to short-cut schools and to least resistant states. But these outcasts are embittered by exclusion from prestige in practice. They swell the ranks of the quacks and unfurl the black flag of the medical privateer. The discredited schools and diploma mills also insist on the old dogmas of liberty and *laissez faire*, and make appeals to the traditions of the fathers, the spirit of '76 and other quaintly irrelevant ideas and shibboleths. To the influences which resist the standardization of medical education may be added makers of proprietary remedies whose success varies directly with the credulity of the public. But in spite of impatient selfishness, mental inertia, sincere fanaticism, unscrupulous greed, the standardizing of medical education goes steadily if too slowly on. The association under whose auspices we meet affords an example of that extra-legal centralized organization which creates national institutions amid what often seems a chaos of state particularism. Slowly but inevitably we are selecting a medical élite, experts to whom we entrust a constantly growing body of scientific knowledge and an elaborated technic. If the community for its own protection insists on testing and training its social functionaries, it must provide a way of finding and encouraging unusual ability however this may be circumstanced. A system of scholarships awarded by competent authority after adequate tests and continued only so long as the scholar's work justifies the support would seem to be a socially necessary consequence of the increased demand of medical education. Medical associations, individuals, institutions and the state should all have a share in creating such a system.

Scientific men should face facts as they are. The public mind is like a force of Nature. It is childish to rail at it, to denounce it, to expect it to be docile about technical matters. Physicians should diagnose the condition of the public mind calmly and in a scientific spirit. They should try to trace the play of cause and effect, and then take measures to bring desired results to pass. In this they have the right to ask the cooperation of all thinking men and women. The public is controlled by leaders. These leaders must be informed and intelligent. Colleges and universities have a responsibility in training these leaders. Every institution of higher education should be a model of public sanitation and hygiene. Every graduate should be well-grounded in the principles of personal and community health. The public schools could do much more than they do at present to train children in hygienic habits and in intelligent deference to sanitary regulations. Popular literature, lectures, parent's meetings, visiting nurse associations, organizations like the antituberculosis societies, city and state health departments and boards—agencies of many kinds are all engaged in the work of popular health education. Would that Mr. Carnegie's next $10,000,000 gift might be devoted to publishing in newspapers authoritative advertising bulletins on hygiene and sanitation. Many an editor would be glad to be freed from irksome slavery to the "patent-medicine" men.

Great responsibility for the education of the public must fall on members of the medical profession. Physicians and professors of medicine must devote some time to public addresses, to cooperation with public school authorities, to hearty support of local health authorities when these are reasonably competent, and to civic movements designed to improve a defective public health service.

Movements for legislation affecting medical education, admission to the practice of the profession, the organization of health boards, the enactment of sanitary regulations, etc., should all be regarded as a part of the process by which the expert few and the many are to be brought into relations of mutual respect and good will.

The State and Medical Education

PROF. WILLIAM L. BRYAN, President of Indiana University: The first appropriation of public funds for medical education in Indiana was made within the past thirty days. The schools of medicine have come together. Aside from the two-year school at Valparaiso, for which I wish to say a good word in passing, we have now in Indiana one school of medicine, and that is a department of the state university. The sects have come together on the terms of the law governing the medical schools. The language of the statute is as follows:

> That there shall be no discrimnation for or against any school or system of medicine in the university, and that all or each of the schools or systems of medicine now recognized by the state shall have adequate opportunity to teach the practice of medicine in the university according to the principles advocated by them respectively, and that it shall be the duty of the trustees of Indiana University to provide such instruction in as thorough a manner as the means at their disposal will permit, and as nearly as possible to provide the same quality of instruction whenever a reasonable demand shall be made for the same.

Everybody agreed to that. The university holds the doors of the school hospitably open to every variety of medical theory on the conditions set forth in the law. Up to this time no particular school of medicine has taken advantage of this law.

The Responsibility of State Universities in Public Health Matters

PROF. GEORGE E. MACLEAN, President, State University of Iowa: A college of medicine first should turn out well-prepared practitioners, not simply to cure disease, but educated as sanitarians, and conscious that the medicine of to-day must lend itself to the science of preservation and health and prevention of disease. The practitioner must be more than a mere medical man. He must be a citizen, and with large functions for society. He, therefore, will study in the university psychology, sociology, philanthropy, social pathology. Experience shows that he ought to know something of political and economic science, for more physicians break into the legislature than into the penitentiary. The state board of health should find the highest expert service, free from all political contamination, in the men of laboratories of the State University. The university students, and especially the medical students, should have the benefit of these health experiment stations, for enlarging the scope of their undergraduate education, and in order to be trained for sympathetic cooperation with the health authorities and the university as they settle in their professions throughout the state.

The Board of Control in Iowa is charged with inspection of poor-houses, and even of private eleemosynary institutions, and the state board of health with inspection of hospitals, maternity and children's homes. This accepted responsibility by the state opens the door when correlation of all the state bodies is effected, for the university to aid by its experts, and to make all these institutions in some sense adjuncts to the university laboratories. A federation of the hospitals, public and private, with the university, which might furnish interns, would not only give a proper extension of the course in medicine, but would disseminate missionaries of public health. Most naturally, the university becomes as much of a coordinating point in sanitary matters as it is in educational affairs.

Impressed by our opportunities and the vision of the future possibilities of public health, we put up the prayer to you medical men: "Come over into Macedonia and help us."

The original Macedonian cry was a missionary call and a crisis in civilization when the Occident turned to the Orient for the life of Christianity. At this moment, according to Edward A. Woods, America is awakening to the realization that the chief wealth of her country is not in its material resources, but in the lives and health of its people. The lives of a nation, according to the insurance men, are worth three times its property, or over three and one-half billions of dollars. In the light of the inestimable worth of life in a nation with a Christian faith, how great our responsibility in this tremendous public health movement now just starting to conserve health and even lengthen life!

JOINT CONFERENCE ON MEDICAL PRACTICE ACTS

Medical Practice Acts and the Public

Hon. Edward J. Brundage, Corporation Counsel, City of Chicago: Notwithstanding the vastly greater importance of the public health, all requirements for the practice of medicine have been left by the people to the physicians themselves. While watchful over the possession of things material, the people have been careless in their dealings with the most precious of all assets—good health. If unfit men are practicing medicine in this day, the fault is not with the profession, but with the public that permits quack-producing conditions to exist. There has been a great advance in the last decade in the standard for the practicing of medicine, and physicians are entitled to the credit for raising the standard. The public, through ignorance or lack of understanding, has contributed little toward helping physicians in this work. The state of the public health is dependent on the progressiveness of the medical profession, but the profession is not responsible if the public is lax. Some of the people have become aware of this situation, but the vast majority are still unable to discriminate between physicians properly trained and those untrained. The title of doctor is the most abused of all. In its common use it signifies nothing as a title of learning or distinction. Doctors are of as many varieties as the product of a pickle factory. The thing essential for the protection of the public is some way to discriminate between men bearing the title. In my judgment a man of training, high education and character, ought to possess a title distinguishing him from the man who treats the diseases of animals or practices chiropody. But one course appears to the layman to protect the public against such incompetency, and that is to raise the standard of admission to medical colleges by requiring a preliminary degree in arts or sciences as a prerequisite. Even then, after graduation, no license should be granted to practice medicine or surgery until actual experience in a hospital or similar work has been obtained, for a sufficient period to demonstrate ability.

The best evidence that the public is becoming aware of the importance of the physician to the welfare of the community is the growing demand for the creation of a national department of health. Problems in matters of health are constantly being created with the rapid growth of urban life. Medical science is taxed to its greatest capacity to obviate the danger caused by the massing of people in restricted areas. No branch of science has progressed so rapidly, no profession contains more thinkers, willing to devote their lives to the betterment of mankind. The public is learning more and more to depend on physicians, and I am sure the progressive men of the medical profession will find increasing support from the public at large.

Attitude of the Judiciary in Enforcement of Medical Practice Acts

Judge Jesse A. Baldwin, Appellate Court, Chicago: The medical practice acts in the various states have been vigorously contested on the ground of alleged unconstitutionality. A proper consideration of the basis on which such legislation rests readily discovers satisfactory reasons why the courts, in more than thirty of the states where the legislation was directly attacked, have distinctly sustained the constitutionality of such legislation. With the medical practice acts varying, as they do, in the several states, and with supreme courts, and in many instances appellate courts, in each of the states, it is not surprising that there should be a lack of absolute uniformity either in the legislation or in the decisions of the courts under it. It is difficult to draw any conclusion as to the attitude of the judiciary in the enforcement of medical practice acts from the decisions, and yet examination makes it safe to say that so far as they are criminal statutes, enforcible by fine and imprisonment, the courts are required by the accepted canons of construction to construe them strictly, but examination also shows that both the judiciary and the medical fraternity are applying a progressive science.

While possibly the courts are even more conservative, and more subservient to precedent than the medical profession, no one, after a careful review of the situation, can deny that even the courts are affected by new and progressive views and constructions which are, by changed conditions and necessities, made applicable to the case under consideration. The statutory regulations in regard to the practice acts must be adopted in good faith, must be reasonable, must operate equally on all alike, must prescribe qualifications reasonably possible of attainment by study and character, and fairly intended to protect the public against fraud and imposition. If these requirements are met, the acts will be sustained by the courts, even though the conditions are rigorous, and though sometimes the provisions are not such as the court would itself deem the wisest.

"Let me urge you to move forward unitedly, and secure in the interests of suffering humanity the strongest and best legislation possible; continue in your efforts to compel higher standards in your profession, subordinating selfish interests to the public good, and be assured that the attitude of the judiciary in the enforcement of legislation enacted under such conditions and to embody such purposes will be cordially sympathetic."

What Should be the Attitude of the State Toward the Practice of Medicine

Dr. M. L. Harris, Chicago: The only justifiable pretext for a medical practice act is that it shall protect the people against ignorance and incompetence on the part of those who treat the sick. It was thought that this might be accomplished by prohibiting anyone from practicing medicine who had not been licensed so to do, and in not licensing anyone who had not proved himself qualified. A law carefully drawn up on these lines and strictly enforced would undoubtedly restrict the practice of medicine to those qualified. But none of the acts so far passed adhere strictly to this plan nor are any of those which closely approximate it strictly enforced. The state should not attempt to restrict the practice of medicine to a particular class, but should designate those who are competent so that the public may be able to distinguish between the competent and incompetent. Joined to this duty of guidance is the equally important duty of protection. None but qualified physicians should be eligible to any medical position in the public health service, or in any public or charitable institution under the control of the state or any of its municipalities. As all contagious diseases are a menace to the public, and as most of them should be reported to the proper health officers, no unqualified person should be permitted to treat or to assume the medical care of people suffering from these diseases. All parents, guardians and institutions having minors under their care or control should be obliged to furnish them with qualified medical attention in case they are sick or injured and require it. No death certificate should be accepted by the authorities unless signed by a qualified physician. In this manner the state will be able to carry out its duty of protection.

The restrictive or licensing plan of regulating the practice of medicine is fundamentally wrong in principle in that it makes the state dictatorial in a matter of personal rights which is best left to the thinking individual.

Regulation of the Practice of Medicine for the Public Good

Mr. Charles R. Henderson, Professor of Sociology, University of Chicago: Studies and experience disclose the necessity of training in purely scientific investigation. Every advance movement in public hygiene must start from a new laboratory revelation, as the control of diphtheria, typhoid, tuberculosis, summer diseases of infants. Not all, not even a majority of physicians, can be pioneers, but every one should have the fundamental discipline which will make him intelligent and sympathetic toward the investigators. The educated physician is needed to save the nation from quackery which fattens on popular ignorance and inherited superstition. The "patent-medicine" vendors and the faith-healers thrive because science is not a common heritage. The alcoholic superstition owes its survival partly to the want of unanimity among doctors. Free competition in each calling has limits of usefulness. A physician's "trust" is desirable on certain conditions: it must admit all who are competent; it must use fair tests to exclude all others; its charges must not be prohibitive to the poor. Some affect to fear that examinations will snuff out some spark of genius; but the criticism of scholars is a guarantee that no valuable idea will be lost. Indeed, the higher the standard of state examination, the more certain it becomes that every possible hypothesis will be adequately tested by men who try their experiments cautiously on animals before they take too great risks with human patients.

The Administration of Medical Practice Laws

Dr. A. B. Brown, Secretary Louisiana State Board of Medical Examiners: In order for the Board of Medical Examiners to administer usefully the functions that should belong to such a board, it is essential that there should be legislative authority broad enough to permit the board to cover the entire field of regulation of practitioners of medicine. Such a statute must not be too strict in limiting the power of such board. It is humanly impossible for the author of a statute of this nature to foresee all the possible changes that may occur in connection with the development of medical science. The definition of the practice of medicine must be comprehensive. It must enable the board to reach every person who professes to cure disease, or to remedy defects in human beings, or to relieve physical pain or to rectify mental aberration. As a prerequisite to the right to take examinations, the statute should require the presentation to the board of examiners of a diploma, or equivalent certificate showing that the candidate had completed, to the satisfaction of the medical college issuing it, his course in said college; said diploma or equivalent certificate must be issued by a college the requirements of which are satisfactory to the board. The standing of each college must be left to the judgment of the board of examiners. There can be no other judge of the collegiate standing than the board. The legal procedure by which the law is to be enforced should be such as to render the board independent of any local influences that might attempt to obstruct the provisions of the board.

Financing of State Board Work

Dr. Herbert Harlan, President, Maryland State Board of Medical Examiners, Baltimore: The objection to the financing of state boards by the state, is the difficulty in arranging for a liberal expense account under the control of the board. For example, would the average controller pass the voucher for *per diem* and traveling expenses of a representative of a a board to attend such a meeting as this one? Again, the state law officers would surely be expected to act as counsel in defending suits and pushing prosecutions. Many state's attorneys have shown themselves to be, if not hostile, at least very indifferent in regard to enforcing medical practice acts. In Maryland we had great difficulty on this point even though we have our own attorney to aid us. It is my opinion that the best results would come from leaving the distribution of the funds entirely with the boards. In certain states, where the amount is large, larger than is needed for all expenses and for reasonable compensation of the secretary and members, as the money all comes from the physicians, there could be no serious objection to having the surplus turned over to the uses of the state medical society.

CONFERENCE OF THE NATIONAL LEGISLATIVE COUNCIL

The chairman, Dr. H. B. Favill, appointed the following committee on resolutions: Dr. E. J. McKnight, chairman, Hartford, Conn.; Dr. A. B. Brown, New Orleans; Dr. R. M. Funkhauser, St. Louis; Dr. Charles F. Whithington, Boston; and Dr. Frederick R. Green, Chicago, secretary of the Council on Health and Public Instruction, ex officio.

Dr. F. R. Green, Chicago, presented his report, after which there was a roll-call by states and presentation of reports from state representatives. There were also reports from interim committees, Carroll memorial, medical expert testimony and optometry.

Report of Committee on Optometry

Dr. John C. Bossidy, Chairman, Boston: Twenty-four states had legalized optometry by the end of 1909; or, as opticians claim, had recognized it as a profession. In 1910 physicians vigorously fought the further extension of this pernicious measure, and the opticians were beaten in every state where they made their effort. The committee finds apathy on this subject in the medical ranks. The fight in the past has been by a few medical men, and this state of affairs should be remedied. Columbia University, of New York, was persuaded during the last year to establish a course in optometry. The university prescribed a minimum of twelve students before starting the course. The result of the establishment of this course has been that Columbia University has been quoted in many states as the chief argument for the establishment of further optometry laws; and yet, with all this effort, there were on the first of February of this year, but eleven students taking this course. The committee is impressed with the great harm that can be done to the public through unwise legislation, and its members hope that every medical man present at this conference will see this subject in all its present and future dangers.

Educational Work in Vital Statistics

Dr. Cressy L. Wilbur, Chief Statistician, Bureau of the Federal Census, Washington, D. C.: One of the chief assets of the Bureau of the Census in its work of endeavoring to promote the better registration of vital statistics in the United States is the continued earnest cooperation of the organized medical profession. Nothing could be done if the physicians of the United States were opposed to the enactment and enforcement of effective registration laws, and practically all that has been done to secure such legislation has been through the active efforts of the medical profession. The registration service in the United States is too often treated as merely clerical or the mechanical part of public health organization and entrusted to utterly incompetent hands. The result may be exceedingly disastrous when the health officer undertakes to test his work by the use of vital statistics, and in general it may be said that all sanitary workers in this country are hampered by the lack of uniformity and thoroughness in statistical publications; hence the desirability of building up, with its roots in the broad scheme of medical education, a body of trained practical workers in vital statistics and appreciative students and users of their results. This object is nearer to accomplishment than ever before, but it will take many years of earnest cooperative effort on the part of these councils of education and legislation, with the full support of the entire profession before we shall bring this neglected subject up to the full measure of its usefulness.

REPORT OF COMMITTEE ON RESOLUTIONS

The Committee on Resolutions presented the following report, which was adopted:

Whereas, The Committee on Carroll Memorial has completed its work in a highly satisfactory manner to all concerned; therefore, be it

Resolved, That the final report of the committee be accepted and the committee discharged; and be it further

Resolved, That the committee recommends that the cordial thanks of the conference be extended to Major Ireland and his committee for the efficient manner in which they have accomplished their work

Resolved, That the thanks of the conference be extended to Drs. Halsey, Gay and Bristow for their individual efforts in the consideration of medical expert testimony, and that this committee be discharged; and, be it further

Resolved, That the Council on Health and Public Instruction be requested to establish a standing committee to give this matter thorough consideration and, if possible, to confer with a committee of the American Bar Association.

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Resolved, That a copy of these resolutions be transmitted by the secretary of the conference to the president of Columbia University of New York.

Resolved, That this conference reaffirms its endorsement of the model bill on vital statistics and expresses its appreciation of the interest shown by Hon E. D Durand, director of the census, and by Dr. Cressy L. Wilbur, chief of the division of vital statistics, in promoting the adoption of uniform vital statistic laws in the various states, and that the secretary be instructed to furnish a copy of these resolutions to the above-mentioned gentlemen.

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Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE SECRET COMMISSION EVIL

The following editorial appeared in *Colorado Medicine*, February, 1911:

> "EVERY MAN WHO DOES GOOD WORK SHOULD BE PAID FOR WHAT HE DOES, AND NO MAN SHOULD BE PAID FOR WHAT HE DOES NOT DO."

1. A surgeon who lets it be understood that he will give to every doctor sending him a case, a certain proportion of the fee, whether he earns it or not—say half, as is frequently done—really makes every one who agrees to this his hired agent, just as much as if he sent him out to canvass the incoming railroad trains with the promise of a fat commission for every patient he might steer in.

These agents are sometimes beginners in practice or else more or less unsuccessful and unscrupulous practitioners. They soon discover that they can make more money and make it easier by furnishing cases on commission than they can through legitimate practice, and their hunt for subjects for operation becomes a frantic one. With a poorly paying practice on the one hand and a rich bait of 50 per cent. of the fee dangling within easy reach on the other, they soon begin to strain a point and urge operations where operations are unnecessary. It becomes easy to say: "If you are not operated on you will die." Under the circumstances excuses for this questionable conduct are easily found.

Now, the surgeon who employs these agents is a more or less unscrupulous man, who is wildly grasping for work and does not care how he gets it. He is not willing to earn it by proving to others that he can do things well, thus establishing a legitimate reputation—the recognized and approved method—but he is anxious to buy his work and let the proof of ability come afterward, if it ever does come.

It may be said that such a man may soon become an expert operator, owing to the amount of work which he will do. True: but an expert operator does not constitute a good surgeon—this requires, in addition, judgment, learning, conscience, and an undeviating purpose to do that which is best in every respect for the patient, irrespective of fees and operative statistics. In this sense, he who buys his cases can seldom become a good surgeon.

When an agent sends a case to such a commission-paying employer, the necessity for an operation has often been exaggerated so as to make sure of bagging the game. Hence, in order to protect the interests of his agent, as well as the interests of his pocket, the surgeon *must* operate; but it can readily be conceived that his already elastic conscience is usually equal to the emergency; and I venture to say that few such cases are ever turned down, even when an operation is not really called for.

2. Hence, the commission business leads to indiscriminate, reckless and useless operating; and in these days, when the tendency in this direction is already too great, owing to the comparative ease with which many operations can be done, this is unfortunate, to say the least.

3. Individual ability in different lines of work should be encouraged and not hampered. In every community there are surgeons who are noted for certain things—one is particularly skilful in hysterectomy, another in operating on the brain, a third in the surgery of the appendix, a fourth in stomach and gall-bladder work. The general practitioner is supposed to find out in the course of time who these men are, and his patients have a right to expect that he will use this knowledge for their benefit. But how can a fine, *or* even a coarse discrimination be exercised with 50 *per cent. of the fee* obscuring the vision, and with [illegible] out and take it? The doctor's employer, [illegible] surgeon, inevitably gets the case, whether he is the best man to handle it *or* not.

Suppose your wife were very sick and required the services of a surgeon, and you trusted your family physician to pick out the one best suited to operate on this particular case; and you found out afterward that the surgeon had really been selected not because of fitness, but because he paid your doctor half the fee for selecting him. How would you feel about this? Would you not feel that you had been buncoed? Would you not call it an unjustifiable traffic in human misfortune? Would you not feel like shooting your family physician, especially if disaster resulted to your wife?

4. Publicity is what is needed: If but two doctors resided in a small town and one was known to be a "commission-doctor," while the other carried on a legitimate business of his own, being in the employ of no one and choosing his surgeons according to their merits alone—if this state of affairs existed, other things being equal, how long would it take the populace to make a selection between these two men?

And this suggests the easiest, best and quickest manner o doing away with the commission evil—publicity. Such things flourish in darkness. Turn on the light and they run for cover Is there any doubt that if the public knew a surgeon obtained his work by paying commissions rather than by proving his skill it would express its disapproval by avoiding him?

5. Every man should be paid for what he does, and no man should be paid for what he does not do:

Simply referring a case to a surgeon without further action should usually mean a consultation fee only, which the patient will generally pay without question. It is true, however, that in surgical cases the responsibility is often increased by advising operation: but if the case is one which should go to the surgeon, is not the responsibility even greater if he is not so advised? In fact, the responsibility cannot be escaped either way. It would be right, however, for medical men to demand a larger fee for the added responsibility and trouble accompanying the diagnosis of many surgical cases, the selection of a surgeon, and other matters incidental to the necessary arrangements for an operation. When this matter is presented in a proper light to the public it is always quick to see its justice.

When a case is sent to a surgeon, especially to a strange surgeon in a strange city, the patient often desires his physician to accompany him. Even when this is not actually necessary it contributes a feeling of security and backing which would otherwise be absent. In addition, most individuals wish their physician to be present at an operation, and it gives them confidence to know that he is there and watching over their interests. They also want him to see them during their convalescence, to cheer them up and to make such suggestions as his knowledge of *their peculiarities* may prompt.

There can be no question that these attentions should be paid for according to their value; but this is not yet sufficiently recognized. Physicians too often give their time and skill and receive *no pay* in return. Undoubtedly, the proper method would be for the *patient to meet these obligations directly* At present, however, he often does not see it in this light, and in order to educate the people up to this point (6) it is permissible for the surgeon and the physician to present a joint bill—for services rendered by Dr. A. and Dr. B. This can be *itemized* if desired, or at least it should be if the patient request it. Understand, what makes such a joint bill legitimate is that it is clearly indicated that it is for services rendered by *both* the attendants, and not by the surgeon alone In this way it not only assists the physician in collecting his just dues, but also helps to educate the public to understand that the physician's time and services in connection with an operation are worth something—a point well worth driving home at every opportunity, because services for which nothing is charged are usually estimated as being worth nothing.

The other day a Denver surgeon remarked: "It is nobody's business what I do with a fee, as long as I do not overcharge—if I want to give half of it away, that is my affair, and does not concern the patient or anyone else." But it does concern some one else. It concerns the patient, the public and the *whole medical profession.*

If we wish to retain the confidence of the public, and our own honesty and self-esteem, no transaction should be entered into that we cannot openly lay before the patient and his friends. This is a precept which we cannot afford to neglect The tendency is already too great to distrust the actions and motives of doctors, and we should do all in our power to combat it rather than to encourage it. We should in every way endeavor to convince people that we are honest men with right motives who are trying, within our limitations, to cure the sick without taking undue advantage of them. This is really what separates us from the charlatan and the quack. It is the standard raised by our forefathers, and we should endeavor to maintain it.

7. When an agent receives part of a fee without earning it somebody suffers—either the surgeon gets too little or the patient pays too much. In the former instance the rights and dignities of the profession are trampled on, and in the latter the individual is buncoed.

For the surgeon's agent to receive from the patient something for nothing without the patient's knowledge, is as culpable as if he engaged in a get-rich-quick scheme, or robbed a bank or held up a citizen on the highway. Because surgeons are popularly believed to make more money than the general practitioner, which in the long run is questionable, is no reason why the latter should graft either on the surgeon or on the public. If there is a real grievance it should be rectified in some more legitimate manner, in accord with the high ideals and moral responsibilities which physicians are supposed to possess—for instance, by educating the public to understand that with the growth of surgery increased responsibilities and duties have been thrust on the general practitioner, which should receive increased remuneration.

It goes without saying that every surgeon will be glad to assist in such a campaign of education so far as lies within his power. For instance, a few words to the patient in explanation of the situation are usually sufficient to bring about a proper understanding of the value of the services rendered by the physician before the operation, during or after it; assuming, of course, that the physician is not a grafter and desirous of obtaining remuneration for something he does not do. It is usually easy enough to convince a patient that a good diagnosis, involving the responsibilities and trouble of an operation, is worth more than ordinary medical services, and should be paid for accordingly, but this can never be done by the medical man pretending to work for nothing and then getting half the fee from the surgeon.

8. Buying cases is worse in some ways than advertising in the daily press, because the public has no way of protecting itself against this form of graft. All members of the profession recognize that advertising in the newspapers or on bill-boards is a serious breach of ethics. This is one thing on which we fully agree and are extremely "touchy." The reason for this is not so much because it lowers our dignity and cheapens us, although this is of importance, but because advertising enables men to make false and wonderful claims to deceive the public, the extent of which is limited only by their ability to write and pay for advertisements. From time immemorial it has been recognized that the only decent and honorable course for the doctor to pursue is to let his work speak for itself, and not cry his accomplishments from the house-tops, this being left to the quacks and to the charlatans. If we acknowledge this to be true, how do we reconcile with it the actions of the commission-paying surgeon? Instead of letting his work speak for itself, he pays for his cases—he does not make his reputation, he buys it like any other charlatan. He introduces into the profession a form of advertising much more pernicious than that which employs the newspapers, because against its secret practice the public cannot defend itself. People may be too intelligent to be misled by the allurements of an ordinary advertisement; but when they are steered against a commission-paying surgeon by his paid agent they are helpless, because the game of graft and bunco is a hidden game and not an open one, like that of the ordinary quack.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Second Weekly Meeting

TUMORS OF THE UTERUS

FIBROMYOMATA: Histologic varieties, number, size, rate of growth. Clinical varieties; interstitial, subperitoneal, submucous and intraligamentous. Secondary changes: Atrophy, calcification, fatty degeneration, infection, edema, necrobiosis, cystic degeneration, malignancy.

DIAGNOSIS: History, symptoms, physical examination.
1. Interstitial, pelvic and abdominal in situation.
2. Subperitoneal, pelvic and abdominal in situation.
3. Submucous fibroma. Uterine polypi.
4. Intraligamentous, between folds of broad ligament, anterior and posterior tumors.

CHORIOEPITHELIOMA, DECIDUOMA MALIGNUM

ORIGIN: Fetal or maternal. Location. Microscopic diagnosis. Metastasis.

SYMPTOMS: History, hemorrhage, discharge, pain, anemia, cachexia, etc. Physical examination. Symptoms of metastasis. Differentiate from carcinoma and sarcoma, incomplete abortion, submucous fibroid.

CANCER OF UTERUS: (a) Of the body, (b) of the cervix. Diagnosis, history, symptoms, physical signs, microscopic examination.

SARCOMA OF THE UTERUS: 1. Fibrosarcoma, affecting primarily the parenchyma. 2. Diffuse sarcoma, affecting primarily the endometrium. Diagnosis of each type.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle; Homeopathic, Grace Hospital, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

MAINE: Portland, March 14-15. Sec., Dr. F. W. Searle, 806 Congress St., Portland.

MASSACHUSETTS: State House, Boston, March 14-16. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Indiana January Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, Jan. 10-12, 1911. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17, of whom 16 passed and 1 failed. Seven reciprocal licenses have been granted since Jan. 1, 1911. The following colleges were represented: .

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1910)	86.7
Northwestern University Medical School	(1892)	88.9
College of Med. and Surg., Physio-Medical, Chicago	(1911)	85.6
Chicago College of Medicine and Surgery	(1910)	89.5
Indiana University	(1910)	83.9
Hospital College of Medicine, Louisville	(1892)	75.7
University of Louisville	(1910)	87, 92.1
Southwestern Homeopathic College, Louisville	(1906)	75.0
University of Michigan, College of Med. and Surg.	(1910)	85.3, 84.6
Eclectic Medical Institute, Cincinnati	(1910)	85.2
Ohio-Miami Medical College	(1910)	89.7
University of Toronto, Canada	(1907)	89.8
University of Aberdeen, Scotland	(1889)	90.4
Regia University, Pavia, Italy	(1891)	84.4

FAILED

College	Year Grad.	Per Cent.
Indiana University, School of Medicine	(1910)	67.3

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Coll. of Phys. and Surg., Chicago	(1905) (1908) (1909)	Illinois
University of Maryland	(1898)	Maryland
University of Michigan, College of Med. and Surg.	(1909)	Michigan
Cleveland Homeopathic College	(1909)	Ohio
Western Reserve University, Cleveland	(1909)	Ohio

North Dakota January Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Jan. 3-5, 1911. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 8, of whom 7 passed and 1 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1892)	83
University of Iowa, College of Medicine	(1910)	84
Keokuk Medical College, College of Phys. and Surg.	(1891)	75
Baltimore Medical College	(1910)	84
Johns Hopkins University	(1905)	82
Western Reserve University	(1908)	85
Jefferson Medical College	(1910)	90

FAILED

College	Year Grad.	Per Cent.
Chicago Physio-Medical College*	(1896)†	

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1905) (1909)	Minnesota Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
University of Minnesota, Coll. of Med.	(1906) (1909)	Minnesota
Hamline University	(1906)	Minnesota

* In 1899 this college became the College of Medicine and Surgery, Physio-Medical, Chicago.

† No percentage given.

Book Notices

Practical Bacteriology. Blood Work and Animal Parasitology. Including Bacteriologic Keys, Zoölogic Tables and Explanatory Clinical Notes. By E. R. Stitt, M.D., Surgeon, U. S. Navy. Second Edition. Cloth. Price, $1.50 net. Pp. 345, with 91 illustrations. Philadelphia: P. Blakiston's Son & Co,, 1910.

In the second edition of this book the original arrangement has been adhered to, but the matter has been thoroughly revised. Chapters on immunity, anaphylaxis and poisonous snakes have been added, and the matter on the important subject of animal parasites has been rewritten, as has also the section on the bacteriology and parasitology of the body fluids. Other additions are, an outline of methods for the chemical examination of urine and gastric contents, and for the determination of nitrogen elimination. The author has avoided theoretical consideration, and does not hesitate to say plainly what is and what is not important in laboratory diagnosis. This is an advantage, when spoken with the authority of knowledge and experience. The book is well illustrated. Methods and procedures are concisely yet clearly given. The usefulness of the index, however, and consequently of the book as a work of reference, is impaired by the fact that the parasites are indexed solely under the name which the author has adopted, even though that may be less familiar than another name. Thus, *Lamblia intestinalis*, *Acanthia lectularia* and *Necator americanus* are indexed under those names alone; one looks in vain for *Cercomonas*, *Cimex* and *Uncinaria*. Unfortunately, moreover, the index is not complete, even as to names used by the author.

The Hygiene of Infancy and Childhood and the Underlying Factors of Disease. By A. Dingwall Fordyce, M.D., Extra Physician, Royal Hospital for Sick Children, Edinburgh. Cloth. Price, $2 50 net. Pp. 289. New York: William Wood & Co., 1910.

In this book the author has attempted to "correlate the primary scientific facts of medicine as they apply especially to pediatrics," in order to assist the pediatrist in keeping abreast of the scientific advances associated with his own clinical work. Food, heredity, environment, bacterial infections and the different age periods with their characteristics and susceptibilities to disease and their developmental peculiarities, are discussed.

Fever-Nursing. Designed for the use of Professional and other Nurses, and especially as a Text-Book for Nurses in Training. By J. C. Wilson, M.D., Author of "A Treatise on the Continued Fevers." Cloth. Price, $1 net. Pp. 248. Philadelphia: J. B. Lippincott & Co., 1910.

The text of this book, which originally embodied the substance of Dr. Wilson's lectures before the nurses' class at the Philadelphia Hospital, has gone through revisions until this, the fifth edition, contains only the essentials of nursing in fevers according to present ideas. The demand for a new edition gives evidence that it is meeting its purpose.

The Prescribing of Spectacles. By Archibald Stanley Percival, M.B., Senior Surgeon Northumberland and Durham Eye Infirmary. Cloth. Price, $2 net. Pp. 159, with 24 illustrations. New York: William Wood & Co., 1910.

The author presents the subject of refraction in a practical manner, enabling one to quickly grasp the essentials in determining the errors of refraction and of ocular muscle balance. The use of the various instruments of precision is well treated, and some space devoted to the various types of lenses. A large part of the book is given to the mathematical problems connected with this subject.

Notes on Dental Metallurgy. For the Use of Dental Students and Practitioners. By W. Bruce Hepburn, L.D.S. (Glasgow), Lecturer on Dental Metallurgy and Visiting Dental Surgeon in the Glasgow (Incorporated) Dental Hospital and School. Cloth. Price, $2 net. Pp. 213. New York: William Wood & Co., 1911.

This work is a most complete summary of dental metallurgy. It is written on a short, concise plan, and the subjects can be quickly and easily referred to by the student. Those making a specialty of this line of work should have this book within reach for reference.

Studies in Invalid Occupation. A Manual for Nurses and Attendants. By Susan E. Tracy. Cloth. Price, $1.50 net. Pp. 175, with illustrations. Boston: Whitcomb & Barrows, 1910.

Although this book is not directly medical, it is of interest to physicians, and to all who have to do with invalids. Practically every sort of work that may be employed to pass the tedious time of persons crippled or otherwise shut-in has been explained and illustrated here.

Medicolegal

Insufficient Evidence of Malpractice and Erroneous Rulings

The First Appellate Division of the Supreme Court of New York reverses, in Brown vs. Goffe (125 N. Y. S. 458), a judgment for malpractice, and orders a new trial. It deems it sufficient to say that the principal operation performed by the defendant involved the removal of certain of the plaintiff's organs which had become diseased. Later in the same day a condition arose which required a second minor operation, mainly for the purpose of drainage, and some time later a second incision was made for the same purpose. Still later, after the plaintiff had sufficiently regained her strength, a fourth operation was performed, consisting of opening one of the incisions already made and securing so far as possible some of the spots found to have been weakened by the infection found on the occasion of the first operation.

The burden of the complaint was that the defendant, while possessing the requisite skill and learning, did not use reasonable care in the exercise of his skill and the application of his knowledge. But there was no evidence in the case from any qualified witness to the effect that any one of the operations performed by the defendant was improper, or was carelessly, negligently, or unskilfully executed. Furthermore, the charge of negligence and carelessness in the aftercare of the patient rested entirely on the evidence of the plaintiff herself, a young woman about 25 years of age who had been employed as a waitress in a restaurant, contradicted in the main not only by the defendant, but also by his assistants and the house surgeons of the hospital. It was insisted throughout the trial and on the appeal that the defendant had compelled the plaintiff to lie for days at a time with unchanged bandages and dressings. This insistence had no better foundation than the plaintiff's inadmissible evidence that one of the hospital staff had told her that the defendant had given orders that the bandages should not be changed. No legal evidence of such an order was given. But counsel quoted a sentence from the defendant's evidence that "I never ordered the bandages removed," but carefully refrained from quoting the very next sentence, that "the bandages were taken off every day after they were soiled." It is well settled that the burden of establishing affirmatively either want of skill or negligence in the care and attention of a patient must be assumed by him.

A very important inquiry in a case like this is whether or not the defendant did that which his best judgment dictated. One of the obligations resting on a surgeon or physician is to use his best judgment in exercising his skill and applying his knowledge, and when his acts are challenged it must necessarily be open to him to show that they accorded with his judgment as to what should have been done. So the defendant was prevented from showing precisely that which it was incumbent on him to show, when this question was excluded: "Now, in performing this operation did it, in your judgment, become necessary to separate the tissues in either way from the sac in which the pus was found?"

The necessities of the case required that the defendant should leave, in a large measure, to the hospital staff the care of the patient after the operations, which it was shown was the usual and proper practice in hospital cases, and it was error not to allow him to answer the perfectly proper question as to what instructions he left with the hospital physicians or nurses as to care of the patient.

Practice of Medicine by "Suggestive Therapeutics"

The Fourth Appellate Division of the Supreme Court of New York in People vs. Mulford (125 N. Y. S. 680) affirms a conviction of the defendant of practicing medicine without having a license and being registered as required by Chapter 344 of the Laws of New York of 1907, which declares that "A person practices medicine within the meaning of this act . . . who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

It appeared from the evidence, without contradiction, that the defendant had an office, where he received patients, and treated them for physical ailments, and received compensation therefor; that he gave no medicine, and prescribed none; that he performed no surgical operations, and used no surgical instruments; that his entire treatment consisted of the laying on of hands, and manipulation, breathing and rubbing his hands together; and that his treatment was beneficial to his patients. The sign in front of his office indicated that his treatment was known and designated as "suggestive therapeutics." On the evidence he was practicing medicine, the court holds, as defined by the above statute, and was guilty of a misdemeanor thereunder.

The only contention of the defendant was that the statute is a violation of the state and United States constitutions, but it does not seem to the court to require any extended discussion to show that the legislature had the right to enact the provisions of this law, and that it does not violate the provisions of the constitutions.

It was said that the defendant could do no harm, if he did no good, and that he should therefore have been permitted to practice his calling without interference, and that this law, which brought him within the definition of one who practiced medicine, and was therefore prohibited from doing so without a license and being registered, deprived him of a legal right to carry on a proper business, and was a violation of the provisions of the constitutions. But a patient may often suffer as well from a failure to prescribe proper remedies, or afford surgical relief promptly, as from making improper prescriptions, or performing unskilful operations. A physician who holds himself out to treat patients for physical ills should know whether to do anything, and what to do, to relieve his patient; otherwise, he should not be permitted to practice, and impose on the unfortunate sufferers who, like the poor, are always with us, and many of whom need the protection of the state against quacks in and out of the profession of medicine. "I [Justice Williams wrote the opinion] have no sympathy with this class of practitioners, who seek to remain outside of the control of the state, for the welfare of the people."

School Boards May Employ Suitable Persons to Ascertain Physical Condition of Pupils

The Supreme Court of Minnesota holds, in State ex rel. Stoltenberg vs. Brown, City Comptroller (128 N. W. R. 294), that a school board may employ a suitable person to ascertain the physical condition of the pupils in attendance on the public schools of the district.

The court says that the education of a child means much more than merely communicating to it the contents of textbooks. But, even if the term were to be so limited, some discretion must be used by the teacher in determining the amount of study each child is capable of. The physical and mental powers of the individual are so interdependent that no system of education, although designed solely to develop mentality, would be complete which ignored bodily health. And this is peculiarly true of children, whose immaturity renders their mental efforts largely dependent on physical condition. It seems that the school authorities and teachers coming directly in contact with the children should have an accurate knowledge of each child's physical condition, for the benefit of the individual child, for the protection of the other children with reference to communicable diseases and conditions, and to permit an intelligent grading of the pupils.

In this case the board of education of Minneapolis, pursuant to a previously adopted resolution recommending the employment of a suitable graduate nurse for one month to make an inspection of the physical condition of the pupils of certain-named schools, appointed the relator to make such inspection at a salary of $60 for the month's services. She performed those services, a warrant for her pay was drawn and signed by the president and secretary of the board, but the city comptroller refused to countersign the warrant. The above considerations and many others not deemed by the court necessary to mention leads it to the conclusion that the comptroller was properly directed by mandamus to countersign the warrant.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

February 25

1 A Case of Meningomyelite with Complete Recovery. W. M. Leszynsky, New York.
2 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
3 Neurofibromatosis. W. B. Trimble, New York.
4 *Nature of the Virus of Yellow Fever, Dengue and Pappataci Fever. C. F. Craig, Washington, D. C.
5 Relation of the Doctor to the Church. C. E. Nammack, New York.
6 Two Cases of Renovesical Tuberculosis Treated with the Bacillus Emulsion J. Pedersen, New York.
7 Chyluria Containing the *Cercomonas Hominis*. C. Rosenbeck and G. L. Rohdenburg, New York.

4. Nature of Virus of Yellow Fever, Dengue and Pappataci.—In reviewing the work which has been done on the nature of the virus of yellow fever, dengue and pappataci fever, Craig says that one is impressed with the similarity existing between them, a similarity which points to the close relationship of the causative organism. Clinically, there is considerable resemblance, all three diseases having a sudden onset, running a comparatively rapid course, and terminating by crisis rather than by lysis. In point of severity, pappataci fever is the mildest, yellow fever the most severe, while dengue occupies the position between the two. In all three the cause is present in the blood, but only during certain periods; in yellow fever during the first three days of the disease; in pappataci fever during the first day; and in dengue, so far as is known, during the third and fourth days of the attack. In all, the injection of filtered or unfiltered blood produces the disease. All three of the fevers are transmitted by an insect; in two, yellow fever and dengue, by a mosquito, and in pappataci fever by a biting fly. In yellow fever and pappataci fever the causative agent undergoes a cycle of development within the transmitting insect, while in dengue this point is still undetermined. In yellow fever the mosquito does not become infective until twelve days after it has bitten the infected individual, while in pappataci fever the fly does not become infective for from seven to ten days. In all three diseases the causative agent is ultramicroscopic in size, as is passes through the best filters that can be obtained, and because the most careful examinations of the blood both microscopically and culturally have failed to show any parasite. In addition, there is conclusive evidence that these diseases are not contagious. The careful consideration of all of these facts impresses Craig with the belief that yellow fever, dengue, and pappataci fever, as well as other diseases due to a filterable virus, are caused by parasites which differ markedly from any with which we are acquainted. The evidence goes to show that they differ from one another in virulence, thus producing the variations in the clinical picture of the three diseases, just as in malarial infection we have different species of plasmodia which produce mild or severe attacks. In many respects these fevers resemble those due to the malarial plasmodia. Like the malarial fevers, they are transmitted by insects, but may be produced by the injection of blood from an infected individual; while there is almost as much difference in the severity of the fever due to the benign tertian plasmodium and the often fatal infection produced by the estivo-autumnal plasmodia, as there is between yellow fever and severe dengue. The discovery of the actual organisms concerned in the production of these fevers is apparently impossible until we can perfect the microscope or discover some method of staining or cultivating them, but Craig believes that, in time, it will be proved that these fevers are due to closely related species belonging to the same genus, and that in all probability they will be found to belong to that great class of organisms which are daily becoming of more vital interest to the physician, the protozoa.

Lancet-Clinic, Cincinnati

February 18

8 Acute Lung Tuberculosis: A Contagious Serolymph Disease. "Aerogenous." F. Gaertner, Pittsburg, Pa.
9 Conclusive Researches of Medicine. A. R. Peebles, Boulder, Colo.
10 The Adjustment of Eyeglasses. F. W. Davis, Cincinnati.
11 Examination of Prof. Irving Fisher's Report on National Vitality. L. Irwell, Buffalo, N. Y.

Illinois Medical Journal, Springfield

February

12 *Bismuth Paste in Rectal Fistula. E. G. Beck, Chicago.
13 A Clinical Service in Our State Hospitals. F. P. Norbury, Kankakee.
14 Ligation for Partial Thyroidectomy for Hyperthyroidism. C. H. Mayo, Rochester, Minn.
15 *Vital Statistics in Illinois. G. W. Webster, Chicago.
16 The Matas Operation for the Cure of Aneurysm. D. A. K. Steele, Chicago.
17 Leukocytes in the Diagnosis, Classification and Prognosis of Pulmonary Tuberculosis. J. F. Hultgen, Chicago.
18 *Hemolytic Jaundice. W. S. Thayer, Baltimore.
19 Report of Work Done at Ottawa Tent Colony, with Suggestions for Improvement. J. W. Pettit, Ottawa.
20 The Spread of Venereal Diseases. E. W. Fiegenbaum, Edwardsville.

12. Abstracted in The Journal, Oct. 29, 1910, p. 1584.

15. Vital Statistics in Illinois.—The history of the vital statistics movement in this country is discussed fully by Webster. His concluding remarks, based, in the main, on the Illinois situation, although applicable to other states occupying the same position as Illinois in this matter, are, in part, as follows:

It is the duty of the State of Illinois to see to it that at least the three principal events in the life of each of its citizens be made a matter of public record. These three principal events are birth, marriage and death. Illinois has spent $40,000,000 on a sanitary canal, largely for the purpose of improving the water supply of some of her cities and chiefly for the purpose of diminishing deaths from typhoid. To what extent has the typhoid death-rate of the state as a whole been affected? Nobody knows. Owing to the lack of any adequate system of sanitary bookkeeping, we don't know the actual annual death-rate in the state, from typhoid, or any other disease, either before the canal was opened, or afterward. What would you think of the business sagacity of a corporation that would spend $40,000,000 on some improvement and then fail to keep a set of books that would enable it to know whether it was a paying investment or not? For several years the Illinois State Board of Health has been engaged in a state-wide antituberculosis crusade. And with what result? Nobody knows. We do not know the exact death-rate from this disease and consequently are not in a position to estimate correctly the value of any or of all the methods instituted for its suppression. The Illinois State Geologic Survey and the Illinois State Water Survey have done splendid service in showing the need of a better water-supply and how to obtain it. What effect has it had on the typhoid or other mortality? Nobody knows. In Illinois, the birth or the death of a blooded horse or a Jersey bull is at once recorded in a herd-book, but the people of southern Illinois, through the voice of their chosen representatives, have gone on record as saying that it is too much trouble to obtain legal permission to bury their dead or to make a legal record of the event and, consequently, in this state, outside of cities having ordinances with a compulsory burial-permit feature, a human being may be placed underground without the slightest legal note or record. What a disgrace to our state that we should be found holding open the door for graveyard insurance. When a human being can pass, or be sent, from this world to the next, without a single formality, inquiry into or record of the cause of the death, and the body buried like a dog, it is time we enacted and enforced a suitable law, if for no other reason than as a deterrent of crime. Good laws are the expression of an enlightened public sentiment enacted for the protection of society as a whole, and not for any class, and another failure to enact a satisfactory birth and death law in Illinois will be greatly to the discredit of the intelligence and public spirit of the people of the state. For sanitary, legal, social, economic reasons, Illinois should prepare and enact, and then enforce, such a birth and death law as will enable her to take her proper place among, not only foreign countries, but her immediate neighbors in the Registration Area of the United States, to the end that sanitary science can be advanced, preventive medicine be improved, the legal rights of every citizen be better protected, a proper foundation be laid for the working out of many social problems of vital importance, the health of every citizen be better protected and life prolonged.

18. Hemolytic Jaundice.—Thayer shows that the studies the last several years have brought out a fairly defini clinical syndrome, that of acholuric jaundice associated wi splenomegaly and fragility of the red blood-corpuscles. its purest form, this group of symptoms is manifested in sharply defined disease picture, congenital, often famili splenomegalic jaundice. It is probable that many of Gilbert cases of chronic simple jaundice with splenomegaly as w as of Hayem's infectious splenomegalic jaundice are exampl of the disease. A similar condition is, however, not infrequently encountered in adult life. In these so-called acquired cases the symptoms are, as a rule, considerably more acute and severe than in the congenital malady. The syndrome has, moreover, been found in a variety of other instances of non-obstructive jaundice associated with various infections or poisons. What the essential primary element in these cases may be, is not at present clear. Most important is the recognition of those apparently idiopathic examples of acquired hemolytic jaundice simulating pernicious anemia, cholelithiasis, the so-called splenic anemias or indeed, icterus gravis; most important because of the fact that the recognition and persistent treatment of some of these patients with iron may bring a great improvement, and perhaps permanent recovery. The recognition of this syndrome has opened again, and in an interesting manner, the question as to the possibility of a purely hematogenous jaundice. The methods of studying the corpuscluar resistance necessary for the diagnosis of such cases are, of course, too delicate for use by the busy practitioner, but they may be carried out easily in any well-equipped laboratory. In the severe acquired forms, rest in bed and t other adjuvants suitable for the treatment of any gra anemia should be adopted. In congenital hemolytic jaundi recovery is unknown, but a temporary improvement in t anemia may be obtained by persistent treatment with iro In acquired hemolytic jaundice long continued treatment m result in apparent, perhaps, indeed, in complete recover This is a very important fact when one reflects on the futilit of treatment with iron in Addisonian anemia, a malady whi may so closely resemble this syndrome.

Ohio State Medical Journal, Columbus

February

21 *Two Cases of Heart Block. L. C. Grosh, Toledo.
22 Natural History of Appendicitis. J. C. Oliver, Cincinnati.
23 Thyroid in Infancy. A. J. Bell, Cincinnati.
24 Possible Abuse of the Eustachian Catheter. J. B. Alcor
25 [illegible] rtion. G. W. Kosmak, New York.
26 [illegible] Conditions in Psychiatry. J. George, Dayton.
27 Alimentary Toxicoses and Intoxication. J. J. Thomas, Cle land.

21. Abstracted in The Journal, July 16, 1910, p. 244.

Journal of Experimental Medicine, New York

February

28 *Cardiac Hypertrophy. H. A. Stewart, New York.
29 Mercury [illegible] H. Noguc and J. [illegible]
30 Barium S [illegible] of Syphil H. Noguchi and J. Bronfenbrenner, New York.
31 Effects of Mechanical Agitation and of Temeprature on Co plement. H. Noguchi and J. Bronfenbrenner, New York.
32 Morphologic Changes in a Mouse Carcinoma in the Course Long-Continued Transplantation. R. Kilduffe, Philadelphi
33 Relations of Embryonic Tissue and Tumor in Mixed Grafts P. Rous, New York.
34 *Effect of Pregnancy on Implanted Embryonic Tissue. P. Rou New York.
35 Influence of Mouse-Rat Parabiosis on the Growth of Rats of Transplantable Mouse Sarcoma. R. A. Lambert, New Yor
36 *The Estivo-Autumnal Parasite: Its Sexual Cycle in the Circ lating Blood of Man. M. Rowley-Lawson, New York.
37 *Malarial Pigment (So-Called Melanin): Its Nature and Mo of Production. W. H. Brown, Madison, Wis.

28. Cardiac Hypertrophy.—Stewart deals with first, the development of the reactive processes known as hypertrophy, in point of view of time after the establishment of a condition favorable to its onset; second, the question of co-hypertrophy; and third, the relation which the altered muscle bears to the normal. He found that hypertrophy induced by the production of aortic insufficiency involves all the chambers of the heart. The greatest absolute increase in weight is in the left ventricle. The remaining segments, arranged in the order of decreasing increments are septum, right ventricle and auricles. The greatest relative increase is also in the left ventricle, but the auricles show a relative hypertrophy greater than that of the septum or right ventricle. The co-hypertrophy of the auricle is not due to an altered venous pressure, but results from an increased force of auricular systole. The heart shows an increase in weight within one week after the production of aortic insufficiency. The increase in weight is due only in part to an increased water content.

34. **Effect of Pregnancy on Implanted Embryonic Tissue.**—Rous found that grafts of embryonic tissue, obtained at operation and implanted in the mother, will grow well in case she no longer carries young. The growth is no more rapid than that in favorable non-pregnant aliens, but persists for a longer period without retrogression and results in a greater variety of tissues. The superiority of auto-transplantation over iso-transplantation is responsible for this fact. No evidence of a specific "growth-substance" peculiar to the pregnant state is furnished by the experiment. When a mouse is implanted with embryonic tissue from its own uterus, and still carries developing young, the fate of the grafts is very different from that just described. They are vascularized from the host but fail to grow or differentiate. Yet they do not die, and after pregnancy is concluded they may start to grow. The finding is strikingly like that of others of implanted tumor in pregnant hosts. It seems probable that some general factor affecting the growth of implanted tissues is here concerned.

36. **The Estivo-Autumnal Parasite.**—The description of two distinct types of estivo-autumnal crescentic parasites given by Craig, Rowley-Lawson has been unable to confirm. She says that the crescentic parasite is throughout the entire existence extracellular (i. e., not without the substance of the red corpuscle, but attached to its surface). It develops from the familiar small ring-form parasite, retaining a circular contour until fully matured. The very young ring-form parasite has no capsule; the macrogamete has one during its development and sexual activity; while the microgametocyte has it only during its development. The sexual cycle of the crescent may occur in the circulating blood of its human host. The cycle is probably very rapid, for practically the whole cycle can be seen in a few smears taken from one puncture. This microgametocyte, or male, develops a flagellum (microgamete) which, after the parasite has assumed the crescentic phase, leaves the body of the parasite and enters the body of the macrogamete, or female, during its existence as a round body. Fertilization is then accomplished. The microgametocyte, after the escape of the flagellum, shows evidence of degeneration and is probably cadaveric. After fertilization, the macrogamete assumes the crescentic form, reaches the reproductive phase and undergoes sporulation, the product of which appears to be the small ring-form parasite. Renewed infection of the red cells then takes place.

That the sexual cycle is not seen oftener in the circulating blood of man, Rowley-Lawson believes, may be due to one or more of the following reasons: (a) The process of reproduction may be and probably is very rapid (some forms of protozoa are exceeded in rapidity or reproduction only by bacteria). (b) The cycle may usually take place in some of the internal organs. (c) It may be that the sexual cycle occurs in the peripheral blood only at intervals, when it becomes necessary for the parasite to renew its exhausted vitality. (d) The occasional occurrence of the sexual cycle in the circulating blood may be due to some slight chemical change in the composition of the host's blood-serum. She finds no good evidence of conjugation-forms in estivo-autumnal malaria. She found some of the young ring-form parasites in close approximation or overlying each other. As the sexual cycle does not take place in the blood of man, such a process of conjugation would seem unnecessary, unless it occurred as an atypical process. The fact that the crescent is more resistant to quinin than the other varieties of malarial parasites might be explained by the presence of a capsule which appears to protect the parasite, certainly during the sexual phase and probably during the "resting" period (when not undergoing sexual changes). The youngest form of ring parasite shows no evidence of encapsulation. This may explain the fact that quinin is best administered just before the paroxysm when the parasite is undergoing segmentation.

37. **Malarial Pigment.**—Two important methods for the study of malarial pigment are described by Brown: (a) a method for obtaining a solution of malarial pigment from fixed tissues without the removal of a trace of hemoglobin from the red blood-corpuscles; (b) a method for obtaining an iron reaction in malarial pigment. By comparing the bleach reactions and solubility of melanins and malarial pigment, the dissimilarity of the two classes of pigments has been demonstrated. The spectroscopic examination of a solution of malarial pigment proves conclusively that the pigment is hematin. It is suggested that the action of a proteolytic enzyme of the malarial parasite on the hemoglobin of the red corpuscle is the most probable mode of elaboration of malarial pigment. The difficulty with which the human organism disposes of malarial pigment indicates that the production of hematin cannot be considered as a normal intermediate process in the formation of bile pigments from hemoglobin.

Journal of the Oklahoma State Medical Association, Muskogee

February

38 Some Disorders of Sleep. A. D. Young, Oklahoma City.
39 Difficult Surgical Cases. V. Berry, Okmulgee.
40 Thrush. W. L. Davis, Kingston.
41 [illegible] d Cystic Kidney; Recovery. J. H. [illegible]
42 [illegible]: [illegible] Between Internal Medicine and Spe- [illegible] Kansas City, Mo.
43 Salvarsan in Syphilis. E. S. Lain, Oklahoma City.
44 Ergotin. *H. H. Redfield*, Chicago.
45 Sterilization of the Unfit. S. M. Jenkins, Enid.

Annals of Surgery, Philadelphia

February

46 *Anesthesia by the Intratracheal Insufflation of Air and Ether. C. A. Elsberg, New York.
47 *Intussusception, with Special Reference to Adults. E. Eliot, Jr., and J. A. Corscaden, New York.
48 *Diverticula of the Lower Bowel: Their Development and Relationship to Carcinoma. L. B. Wilson, Rochester, Minn.
49 *The Coincidence of Volvulus and Real or Simulated Strangulated Hernia. R. T. Miller, Jr., Pittsburg, Pa.
50 *Restoration of Fecal Continence After Iliac Colostomy. A. Marro, Turin, Italy.

46. **Intratracheal Insufflation of Air and Ether.**—This paper is devoted to the subject of anesthesia itself, with special reference to the technic of the method. The apparatus used for intratracheal insufflation is described. Elsberg has so far anesthetized about thirty patients by intratracheal insufflation. Some of them were operated on for intrathoracic disease, many for abdominal or other affections. He has found the anesthesia very useful in operations on the head and neck, as the anesthetist was never in the operative field or in the way of the operator or his assistants.

47. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298. Appended to this paper are the abstracts of 264 cases recorded in the literature.

48. **Diverticula of the Lower Bowel.**—Fifteen cases of diverticula of the lower bowel were studied by Wilson up to Dec. 1, 1910. Three of these were cases of peridiverticulitis. In these the inflammation did not involve the mucosa. Its presence in the peridiverticular fat was apparently due to leakage through the thin-walled diverticulata—a condition similar to that seen in old umbilical hernias. The symptoms were those of peritonitis or obstruction from pressure. In four cases carcinomata had developed in the diverticula, probably from epithelium segregated by chronic inflammation.

49. **Volvulus and Strangulated Hernia.**—Miller presents two cases, with abstracts of the cases reported since Knagg's paper in 1900. Volvulus, he says, may produce *in a hernia signs* and symptoms which accurately simulate hernial strangulation; or it may be associated with actual strangulated hernia. Volvulus, in either association, may readily escape recognition; it is probably contributing heavily to the mortality of strangulated hernia. The diagnosis before operation is usually exceedingly difficult: there are, however, [illegible] very suggestive features, viz., advanced age, [illegible] *of hernia for*

many years, shock out of proportion to the signs about the rupture, and marked abdominal pain and tenderness with occasionally a palpable mass. The diagnosis at operation depends on careful observation, there being certain signs which are pathognomonic; an operation undertaken for strangulated hernia must demonstrate absolutely the strangulation. Volvulus proximal to actual strangulated hernia apparently offers no sure means of diagnosis other than routine abdominal exploration—a procedure which is manifestly not to be recommended.

50. **Fecal Continence After Colostomy.**—The fundamental idea of the method Marro applies consists in causing the proximal end of the resected intestine, properly mobilized, to cross a subcutaneous tunnel, which is parallel to the exterior border of the rectus muscle, in such a way that a simple belt (that of the drawers, for instance), going round the trunk and passing over the iliac wings, should play the part of an effectual and comfortable band of compression on the intestinal segment running between skin and aponeurosis. Such a compression may be rendered more active by a contraction of the abdominal wall, in the moments in which the individual feels the need of it, e. g., in diarrheic attacks and during active peristalsis of the colon. Theoretically, its function would thus imitate well enough the natural function of the sphincters. Three cases are reported in which the method proved quite successful.

University of Pennsylvania Medical Bulletin, Philadelphia

January

51 The Public Health Course at the University of Pennsylvania. A. C. Abbott, Philadelphia.
52 Therapeutic Results from the Use of Salvarsan in Twenty-One Cases of Syphilis. J. F. Schamberg and N. Ginsburg, Philadelphia.
53 Studies in Spirochetal Infections. D. H. Bergey, Philadelphia.

Journal of Abnormal Psychology, Boston

February-March

54 *Hysteria and Modern Psychoanalysis. A. Friedländer, Frankfort, Germany.
55 *Fundamental States in Psychoneurosis. B. Sidis, Boston.
56 *The Mechanism and Interpretation of Dreams. E. Jones, Toronto.
57 *Id. M. Prince, Boston.
58 Raymond—His Life and Example, 1844-1910. W. B. Swift, Boston.

54. **Hysteria and Modern Psychoanalysis.**—According to Friedländer, we do not possess a therapy applicable in all cases of hysteria. The cathartic method of Breuer and Freud, from the theoretical standpoint, has been very fruitful for the psychology of hysteria; it is of practical value in certain cases of traumatic hysteria. The association studies of Jung and others deserve critical consideration. The psychoanalytic method, he says, is surely not the only one that is of value in the treatment of hysteria, neurasthenia or obsessions. In so far as the method is connected with the detailed discussion of sexual matters and perversities, it is justly rejected by many authors. Psychical treatment, as it is practiced by those who do not belong to Freud's school, accomplishes as much as sexual psychoanalysis, but it must be aided according to the particular case by general therapeutic measures applicable to functional neuroses and psychoses. (Training in work, hydrotherapy and electrotherapy, dietetics, etc., and, under certain conditions, hypnosis.) The procedure of those authors who carry on a propaganda in lay journals about this method of treatment, which at best is not proved, and which is rejected by many, Friedländer holds deserves emphatic disapproval.

55. **Fundamental States in Psychoneurosis.**—Sidis says that in all his phobia cases, he found as the basis of the morbid condition the primitive instinctive fear of the unknown, of the unfamiliar, a fundamental fear instinct rooted in the impulse of self-preservation, and an overdeveloped sense of the mysterious. The recognition of these fundamental states by the psychopathologist and their disintegration by treatment are of the utmost importance for psychopathology and psychotherapeutics. The fear of the mysterious is the beginning of phobia.

5e prolonge**The Mechanism and Interpretation of Dreams.**—J [illegible] it up to the present no one who has taken the trouble to acquire the psychoanalytic method has failed to confirm Freud's theory in all essential particulars. Prince, on the other hand, holds that no one who has shown by his writings that he is thoroughly trained in and conversant from first-hand knowledge with all the phenomena of abnormal experimental and functional psychology has accepted Freud' theory.

Ophthalmic Record, Chicago

February

59 A Fatal Case of Dementia Following Cataract Extraction E. Hill, Philadelphia.
60 A Case of Anisometropia. R. P. O'Connor, U. S. Army.
61 Contusion of the Eyeball. E. E. Blaauw, Buffalo, N. Y.
62 Soft Fibroma of the Conjunctiva. J. S. Wyler, Cincinnati.
63 Use of Diagnostic Doses of Old Tuberculin in Determining th Etiology of Optic Neuritis and Neuroretinitis of Obscur Origin. W. E. Gamble, Chicago.
64 *An Unusual Case of Foreign Body in the Eye. R. S. Lamb Washington, D. C.

64. **Foreign Body in Upper Eyelid.**—The patient in thi case was suffering from a condition of the left eye which t all appearances was a trachoma with pannus, or possibly a kerato-iritis with vascularization of the cornea of such lon standing as to have caused the beefy-looking inflammation o the upper lid. He gave a history of having got a piece o hair in the eye and of having it removed at one of the hospitals, since when the eye had been better and worse, bu always somewhat inflamed. After bleaching with cocain an adrenalin as much as possible, a thorough search failed to discover any sign of any foreign substance, and Lamb conclude it was a case of syphilis, even though the patient denied th knowledge of having been infected. He treated him accordingly internally with Donovan's solution, external mercur rubs and locally with yellow oxid and atropin sulphate 1 pe cent., having him use smoked glasses. In the course of a fe days the man was better, but complained now of a mor marked scratching sensation, whereupon Lamb took cocai and adrenalin, bleached as best he could, and searched carefully and long, finally locating in one of the fleshy masses of the upper lid, near its center at the upper border of the cartilage, a small black point. The surrounding flesh was removed and a wiry hair ¼ inch long was pulled out. It had been imbedded in the lid at right angles to its surface, and so whenever the granulating flesh grew smaller the hair presented itself and began again the process of scratching the cornea.

Yale Medical Journal, New Haven, Conn.

January

65 *A Rare Type of Unilateral Hematogenous Infection of the Kidney. G. E. Brewer, New York.
66 Duties of the State in the Prevention of Tuberculosis. H. F. Stoll, Hartford, Conn.
67 A Case of Dystrophia Adipose Genitalis or Hyposecretion of the Pituitary Gland. F. E. Johnson, Providence, R. I.
68 Treatment of Pulmonary Tuberculosis Outside of the Sanatorium. D. B. Deming, Waterbury, Conn.
69 Some Features of Rectal Alimentation. L. M. Gompertz, New Haven, Conn.
70 *Chronic Family Jaundice. W. Tileston, New Haven, Conn. and W. A. Griffin, Sharon, Mass.

65. **Unilateral Hematogenous Infection of the Kidney.**—Brewer has encountered fourteen cases of this severe type of unilateral infection. Of these, two patients were untreated; both died within twelve days. Four patients were treated by nephrotomy and drainage; all died shortly after operation. Eight were treated by early nephrectomy; all recovered. He also reports a number of cases of some of the milder types of the affection in which measures less radical than nephrectomy are indicated. These cases, like the preceding group, often simulate in their symptomatology, appendicitis, cholecystitis, or abscesses of the liver. If unrecognized and unrelieved by appropriate treatment, they go on to the formation of the more definite and more easily recognized lesions, as renal abscess, perinephritic abscess, pyelonephritis, or pyonephrosis. The lesions in these cases, while the same in general character as in the severe type, are fewer and more scattered, and the amount of renal tissue involved is less. Stripping the capsule from the organ when the lesions are small, or combined with the openings and drainage of cortical abscesses or areas of necrosis when present, constitutes the best treatment. In certain instances, when the treatment has been delayed too long, the suppurative process continues and

a secondary nephrectomy may be necessary. Brewer has operated in about twelve cases of this type, and while there was no postoperative death in the series, on one occasion he was obliged to perform a secondary nephrectomy for advancing sepsis; in another patient in whom the function never returned, he performed nephrectomy for persistent renal neuralgia; and in at least one other case a persistent pyelonephritis has resulted. The end-results in most instances, however, have been satisfactory.

There is still a milder type of the disease, the so-called idiopathic pyelitis, which, as a rule, requires no treatment other than rest, hexamethylenamin, and the ingestion of a large amount of pure water. The symptoms are mild in character, and when on the right side are often mistaken for a subacute appendicitis or cholecystitis. The disease may or may not be ushered in by a chill. When present, the chill generally indicates a severe type of infection. The initial rise of temperature is high, generally 104 F. (40 C.), or 105 F. (40.5 C.); pulse is frequently 120, or above. The toxemia is marked from the first and, with the high fever, suggests often an acute grippe, lobar pneumonia, or one of the exanthemata. Then follows a more or less vague pain in the abdomen, or flank, corresponding to the side of the lesion. Tenderness and muscular rigidity over the region of the appendix, or gall-bladder, leads often to error in believing one of these organs to be the seat of the disease. As the urinary secretion from the infected kidney is greatly diminished, and is largely diluted by the abundant secretion from the unaffected organ, the mixed urine, when passed or drawn from the bladder, is often quite normal in appearance, and the slight trace of albumin, blood and pus, is often overlooked unless a more than ordinary careful examination is made. The one pathognomonic sign present in all cases is a marked unilateral costovertebral tenderness.

70. This article was also published in the *American Journal of the Medical Sciences*, June, 1910.

Iowa Medical Journal, Des Moines

February

71 Indication for Removal of Tonsils. R. M. Lapsley, Keokuk.
72 Function of the Vestibular Apparatus. E. R. Lewis, Dubuque.
73 Relation of the Faucial Tonsils to General Infection. G. F. Harkness, Davenport.
74 Fractures. J. W. Osborn, Des Moines.
75 Salvarsan in Syphilis. R. A. Weston, Des Moines.
76 Case of Syphilis Treated with Salvarsan. J. J. Murphy and W. J. Neuzil, Cedar Rapids.

Kentucky Medical Journal, Bowling Green

February 15

77 Occupational Diseases. C. Weidner, Louisville.
78 The Surgical Patient. M. Casper, Louisville.
79 Points in Diagnosis as Revealed by the Roentgen-Ray. E. T. Bruce, Louisville.
80 *A Case of Heroin Poisoning. J. T. Trawick, Louisville.
81 Postoperative Hernia and Intestinal Resection. Intraligamentary Myoma. W. H. Wathen, Louisville.
82 Endothelioma of the Ovary with Involvement of the Ileocecal Junction. W. H. Wathen, Louisville.
83 A Case of Head Injury. Osteoma of the Uterus. J. H. Peak, Louisville.
84 A Case of Puerperal Eclampsia. J. Hancock, Louisville.

80. **Heroin Poisoning.**—Trawick reports a case of severe poisoning following the injection of ½ grain of heroin, a short time after an operation for chronic appendicitis. The symptoms appeared within ten minutes. The patient had the appearance of a person profoundly under the influence of an opiate. After about an hour of medical and mechanical stimulation and manipulation, the respiration count was about ten to the minute, but during that hour it had been very irregular, going from four to eight a minute, and back to four. The pupils were contracted to pinpoints during this time. The patient recovered.

Chicago Medical Recorder

February

85 *Painful Affections of the Feet. J. L. Porter, Chicago.
86 *Local Paresis of the Bladder. G. Kolischer and H. Kraus, Chicago.
87 *When and How to Treat Varicocele in the Male Operatively. A. P. Heineck, Chicago.

85. Also published in *Surgery, Gynecology and Obstetrics*, January, 1911, abstracted in The Journal, Feb. 4, 1911, p. 379.

86. Abstracted in The Journal, Feb. 18, 1911, p. 536.

87. This article has also appeared in the *Illinois Medical Journal*, November, 1910; *Toledo Medical and Surgical Reporter*, December, 1910; *Texas Courier-Record of Medicine*, December, 1910; *Nashville Journal of Medicine and Surgery*, December, 1910; *Medical Summary*, January, 1911; *Pacific Medical Journal*, January, 1911; *Denver Medical Times and Utah Medical Journal*, February, 1911; and the *Medical Fortnightly*, Jan. 25, 1911.

Annals of Otology, Rhinology and Laryngology, St. Louis

December

88 The Maxillary Sinus in the Embryo, Child and Adult Man. J. P. Schaeffer, Ithaca, N. Y.
89 Effect of Maxillary Readjustment on the Development of Nasal Chambers and Face. G. V. I. Brown, Milwaukee, Wis.
90 Widening the Dental Arches in Nasal Stenosis; Its Results and Possibilities. N. M. Black, Milwaukee, Wis.
91 Comparative Anatomy of the Larynx in the Anthropoidea. J. G. Wilson, Chicago.
92 Physiology of Tone Perception. G. E. Shambaugh, Chicago.
93 Present Status of Labyrinthine Surgery. S. J. Kopetzky, New York.
94 Capsulated Bacteria in Production of Acute Middle-Ear Affections. H. B. Graham, San Francisco.
95 Anatomic Explanation of Vestibular Nystagmus. L. K. Guggenheim, St. Louis.
96 *Investigation of Postoperative Conditions from Five to Ten Years After Intubation. B. R. Shurly, Detroit.
97 A Case of Purulent [illegible] tradural Abscess, Subdural Abscess [illegible] of the Lateral Sinus, Complicatin[illegible] Middle-Ear Disease. J. J. Carroll, Baltimore.
98 Annual Report of the Sanatoria for Tuberculosis in the United States of America and in Canada. J. W. Gleitsmann, New York.
99 A Case of Brain Abscess with Rare Ocular Symptoms. C. Barck, St. Louis.

96. **Postoperative Conditions After Intubation.**—Of a carefully recorded series of 437 intubations for laryngeal diphtheria, in 80 per cent. of which the patients were alive when the tube was removed, Shurly has been able to locate and examine thirty of the older children. All these patients had clinical laryngeal diphtheria. The age varied at operation from seventeen months, the youngest, to eleven years, the oldest. The smallest dose of antitoxin given was 1,000 units; the largest 4,000 units. The time during which the tube was worn consecutively was from forty-eight hours to one hundred and twenty-four hours. No instance of retained tube occurred in any of these cases. Four patients required reintubation. In one case intubation had been attempted by two other operators during some hours, without success. Other cases of diphtheria appeared in the same family or in the neighborhood, from which the contagion could be traced in five of these cases. The subsequent statements show the extent of susceptibility of infectious or contagious diseases in these cases, as follows: Measles, ten cases; chicken-pox, four cases; mumps, four cases; whooping-cough, two cases; scarlet fever, three cases. Partial or complete aphonia remained for from one day to seven years after the removal of the tube. "Throat disease" was claimed in ten cases. Four patients were partial, periodic or complete mouth-breathers. Other adenoid symptoms were present in six cases. Lung or heart disease was noted in six cases. Affections of the ears were acknowledged by four. A greater susceptibility to coryza was observed in seven cases. Dyspnea, asthma or hay fever was present in two cases (from adenoids).

The examination was made five years after intubation in one case, and from eight to twelve years in the other cases. Nasal conditions requiring operations were: Deflected septum, four; intumescent and hypertrophied turbinates, two. In eight nasopharyngeal conditions required operation (tonsils). No laryngeal conditions required operation. Enlarged cervical glands were found in nine cases. Thickening of the interarytenoid fold was observed in four cases. Every patient in this series was intubated for laryngeal diphtheria. Shurly concludes that intubation in laryngeal diphtheria is required more frequently when marked tonsillar hypertrophy exists, and that pathologic adenoids and tonsils are prominent predisposing factors in diphtheritic infections of the larynx. No deleterious effects of antitoxin were noted. Laryngeal paralysis is extremely rare after intubation, he states. Scar tissue was observed in two cases. The cicatrix was insignificant and apparently produced no modification in function. No case of laryngeal paralysis was found, although one with motor insufficiency was observed. Children developing laryngeal diphtheria show, Shurly says, a marked tendency to other infections in childhood. So-called chronic catarrhal inflammation of the upper respiratory tract is usual after severe diphtheria.

Medical Fortnightly, St. Louis

January 25

100 *When and How to Treat Varicocele in the Male Operatively. A. P. Heineck, Chicago.
101 *Abdominal Position for Drainage in Suprapubic Prostatectomy. H. J. Scherck, St. Louis.
102 The Medical Profession Must Change Its Tactics. W. J. Robinson, New York.

February 10

103 The Need of an Adequate Alphabet. A. L. Benedict, Buffalo, N. Y.

100. This article has also appeared elsewhere. See No. 87.

101. Abstracted in THE JOURNAL, Feb. 18, 1911, p. 535.

Therapeutic Gazette, Detroit

February

104 Value of Taka-Diastase in Diabetes Mellitus. E. J. G. Beardsley, London.
105 *Relative Value of the Various Methods for the Determination of Kidney Sufficiency. B. A. Thomas, Philadelphia.
106 Teaching of Therapeutics. H. C. Wood, Philadelphia.
107 Case of Vincent's Pseudomembranous Angina. W E. Shea, Missoula, Mont.
108 *Surgical Anesthesia and Blood-Pressure. G. F. Lull and C. H. Turner, Philadelphia.

105. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1838.

108. **Surgical Anesthesia and Blood-Pressure.**—The authors made a study of the blood-pressure and its relations to the pulse rate during administration of various anesthetics, hoping to determine by instruments of precision the onset of untoward symptoms. In all cases, the pressure was taken the day previous to operation, one hour before operation, at the starting of the anesthetic, every five minutes during the operation, one hour after the operation, and the day following; the pulse rate being recorded each time the pressure was taken. In some cases the Stanton instrument, in others the Tycos, was used. They learned that when ether is used the blood-pressure rises at first in nearly every case. When the ether was preceded by ethyl chlorid the pressure remained unchanged during the few moments of ethyl chlorid administration, but when the ether was started, the pressure rose as in the cases in which ether alone was employed. When the skin incision was made it was found that there was a fall in the blood-pressure, which was more marked if the patient was but lightly anesthetized; this fact was also noted in operations in which the peritoneum was incised. One point already well known was once again confirmed, namely, that if the ether was pushed to the point of very deep anesthesia during the operation the blood-pressure fell in proportion to the degree of ether saturation. They conclude that artificial anesthesia causes in many cases a marked alteration in the ratio between the blood-pressure and the pulse rate; this is augmented by anything that produces shock to the nervous system during the operation, notably incision of the skin or peritoneum or drawing on the pedicle of an organ. If at the time of this shock anesthesia be light, the shock will not be so marked as if the patient were under deep anesthesia. In certain operative cases in which the patients show abnormal blood-pressure, on the one hand whether it be high or low, or on the other hand present evidences of cardiac fatigue or actual myocardial weakness, a suitable course of treatment would likely be to diminish chances of circulatory complications both during and after operation to a considerable degree.

Denver Medical Times and Utah Medical Journal, Denver

February

109 *Varicocele of the Spermatic Cord. (a) When to Operate? (b) How to Operate? A. P. Heineck, Chicago.
110 Penetrating Wounds of the Eyeball. L. W. Snow, Salt Lake City, Utah.

109. See No. 87.

Canadian Medical Association Journal, Toronto

February

111 Surgical Treatment of Gastric and Duodenal Hemorrhage. G. E. Armstrong, Montreal.
112 Exophthalmic Goiter. A. McPhedran, Toronto.
113 *Death and Disability Resulting from Childbirth. H. M. Little, Montreal
114 Two Cases of Typhoid Spine. J. Halpenny and D. F. McIntyre, Winnipeg.
115 Origin of Urinary Calculus. G. S. Gordon, Vancouver, B. C.
116 Sarcoma of the Lung. E. S. Jacques, Montreal.

113. **Death and Disability.**—From the opening of the new Montreal Maternity, Oct. 17, 1905, to Oct. 1, 1909, there were treated at that institution 2,634 patients. Of these thirty-five died. It is admitted that this 1.33 per cent. unexpurgated mortality is unusually high, but no patient seriously ill was refused admission, even postpartum, and during the entire four years no patient whose death seemed imminent was allowed to be removed from the hospital. The causes of death were one or other of the forms of toxemia, 40 per cent.; infection, 37 per cent.; and all other causes, including placenta prævia, 23 per cent. Of thirteen patients dying as the result of infection, seven came to the hospital after treatment outside; four had been delivered; two partially delivered; and in one, a placenta prævia, had been repeatedly examined. Another patient with a streptococcus sore throat died of peritonitis within a few hours of delivery, and the child likewise died of streptococcus septicemia. One case of Cesarean section terminated fatally after operation, as did also one case in which pubiotomy was done. For the three remaining cases there is no excuse offered by Little. Two of the patients were delivered spontaneously and one by a low forceps operation, all within two weeks of one another. He says that while laceration of the cervix and of the perineum may account for a certain number of the conditions noted, one further feature in the general management of cases postpartum seems to be accountable for much later distress. This is the custom of tightly bandaging the patient after delivery, and leaving her in such a condition that she is comfortable only when lying flat upon the back. This procedure has, he believes, three distinct disadvantages. In the first place, it absolutely opposes any involution of the round ligaments, which would tend to draw the uterus forward; it prevents the falling forward of the uterus on the bladder, with the consequent tendency to spontaneous micturition; and, finally, tends permanently to hold the uterus back, so that the anterior lip of the cervix is drawn forcibly from the more or less fixed posterior lip, and laceration, if present, is prevented from healing by the formation of scar tissue in the angle of the wound. Not only does this permanent opening of the cervix cause discomfort later, but it is usually associated with a permanent displacement of the uterus. Opposed to these three marked disadvantages of the binder, there is, in Little's opinion, no definite advantage to be claimed for its use.

Texas State Journal of Medicine, Fort Worth

February

117 Modern Civilization's Greatest Blot—Our Care of the Insane. J. M. O'Farrell, Richmond.
118 Reasons Why the Care and Treatment of Mental Diseases in Texas State Hospitals Are Not Ideal. J. R. Nichols, San Antonio.
119 Prophylactic Suggestions in Degenerative Tendencies. G. H. Moody, San Antonio.
120 Pneumonia: Its Symptomatology and Diagnosis. G. B. Foscue, Waco.
121 The Adenoid Operation. H. C. Haden, Galveston.
122 Treatment of Syphilis with Salvarsan. M. W. Colgin, Waco.

Journal of Ophthalmology and Oto-Laryngology, Chicago

February

123 *Recent Contributions to Our Knowledge Concerning Sympathetic Ophthalmia. E. V. L. Brown, Chicago.
124 Use of Scarlet Red in Corneal Diseases. W. O. Nance, Chicago.
125 Acute Purulent Frontal Sinusitis. C. M. Miller, Richmond, Va.
126 Objective Aural Tinnitus Associated with Hyperthyroidism. D. Yates, New York.

123. Abstracted in THE JOURNAL, June 4, 1910, p. 1893.

St. Louis Medical Review

January

127 Physiology and Hygiene of Puberty. H. Ehrenfest, St. Louis.
128 Pelvic Diseases Associated with Puberty. E. Marx, St. Louis.
129 Relation of Puberty to Nervous Diseases. M. W. Hoge, St. Louis.
130 Cutaneous Accidents of Puberty. J. Grindon, St. Louis.
131 Other Diseases Associated with Puberty. I. Gray, St. Louis
132 Conditions Producing the Nervous Child. S. R. Roberts, Atlanta, Ga.
133 Salvarsan in Syphilis. J. L. Bohm, St. Louis.
134 Leprosy. J. Knott, Dublin.

Journal of the Delaware State Medical Association, Wilmington

February

135 Pulmonary Tuberculosis. W. C. P[illegible]
136 Value of Laboratory Findings in [illegible] of Abdominal Surgical Diseases. [illegible] ambridge.

Journal Minnesota State Medical Association and Northwest Lancet, Minneapolis

February

137 Orthopedic Treatment of Infantile Paralysis. A. J. Gillette, St. Paul.
138 *How Shall We Treat Appendicitis After the First Forty-Eight Hours? J. E. Moore, Minneapolis.
139 Iodin in Surgery. F. E. Walker, Hot Springs, S. D.

138. Abstracted in THE JOURNAL, Nov. 26, 1910, p. 1923.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 11

1 *The Choice of a Diuretic. E. Smith.
2 *Serotherapy of Diphtheria. E. W. Goodall.
3 *The Argyll Robertson Sign in Cerebral and Spinal Syphilis. J. M. Clarke.
4 Tuberculin Dispensaries. A. M. N. Pringle.
5 Color Vision and Color Blindness. F. W. Edridge-Green.
6 Yellow Fever in West Africa. Sir R. Boyce.
7 *Poisoning After Small Doses of Acetyl-Salicylic Acid (Aspirin). C. Morgan.

1. **The Choice of a Diuretic.**—The citrates, acetates and tartrates of sodium, potassium and ammonium, Smith says, increase the osmotic pressure of the blood and draw water from the tissues into the blood stream. They do not, therefore, irritate the kidneys, and may be used without fear, he declares, even when these organs are acutely inflamed. It is important that when taken, these drugs should be well diluted, for their action on the kidneys is thus rendered more certain; and it is useful to combine them with spirits of nitrous ether, which, on account of the nitrite of ethyl it contains, is a useful agent in causing dilatation of the afferent vessels of the kidney. In cases of renal dropsy, if the illness be acute, the saline diuretics are the only remedies of the kind which can be given without risk of further injury to the affected organs. That they may act with success, it is of the highest importance to make sure that there is no obstruction to the portal circulation through the liver. A preliminary dose of blue pill followed by a liberal saline aperient is always advisable; and if during the course of the treatment the action of the remedies is found to be getting uncertain or ineffectual, especially if the arterial tension be high, a repetition of the dose will prove to be of service. In all cases, a careful watch should be kept on the work of the bowels, and their action should be encouraged by sufficient doses of a watery aperient every day or every other day, such as the compound jalap powder. To be effectual, this powder must be ordered in adequate dose, and its action can be rendered more energetic by the addition of jalap. In the treatment of adults, elaterium is a useful remedy, but in early life its action is uncertain, and the jalap powder is to be preferred in the case of a child.

The remedial action of pilocarpin Smith has not found very satisfactory. When the acuteness of the attack subsides and the complaint begins to settle down into a chronic course, Smith advises the use of some of the special drugs which act directly on the secretory apparatus, such as digitalis and caffein. In the choice of a diuretic in cardiac dropsy, we must bear in mind that the cause of the edema lies primarily in the chest, and not in the abdomen, and that remedies which act on the kidney are of little or no value unless combined with others which strengthen the action of the heart. We must remember, too, that when blood-pressure is low, drugs which tend to lower arterial tension still further are not only useless, but become an actual source of danger. Digitalis, strophanthus, convallaria, squill and some other drugs act as cardiac tonics, but digitalis, as a rule, is the most prized. Its efficacy as a diuretic may be further enhanced by giving it in combination with other drugs which promote diuresis by different means. The citrate of caffein is, perhaps, the most useful of these drugs in ordinary cases. The combination is further strengthened by the addition of sweet spirits of nitre, as dilator of the afferent vessels of the kidney, in doses of from 30 to 60 drops. In giving this combination it is best to prescribe the digitalis alone or in conjunction with the nitrous ether for two or three days before adding the caffein, as digitalis requires to be taken several days before its effects become noticeable. The dose of caffein should be moderate (from 2 to 3 grains two or three times a day), as stimulation of the epithelial cells of the kidney should always be looked on as a temporary measure which is not to be abused, and may do harm if carried to excess.

The infusion of broom-tops (scoparius) is another safe remedy which may be usefully combined with digitalis. It contains spartein, an alkaloid which has an action on the heart similar to that of caffein, and also contracts the afferent vessels of the kidneys. An ounce of the infusion given in conjunction with a dram of the infusion of digitalis, from 30 to 60 drops of spirits of nitrous ether, and from 60 to 90 drops of the acetate of ammonia solution is a diuretic of great value, both in cardiac dropsy and in that which results from renal disease after the acute stage is at an end. Nitrous ether is one of the most valuable diuretics and can be included in most combinations; but it is incompatible with salicylates, and also with antipyrin and any drug containing tannin. Its good effects are most noticeable when given in combination with acetate of potash, digitalis and squill.

When progress seems at a standstill, there are two drugs, either of which will often bring about a welcome change in the situation—tincture of cantharides, from 2 or 3 to 10 minims, and mercury. Either calomel or blue pill may be employed, but Smith prefers the latter. Mercury is to be avoided, he says, if renal disease be present, and when given should not be pressed if diuresis does not result in the course of three or at the most four days, for it is in such cases that the system may possibly be unfavorably affected by the treatment. Smith has given blue pills in doses of 3 grains, three times a day, in many cases, both to young people, 10 or 12 years of age, and also to the adult, and has found it to be very well borne and to produce free secretion; but when diuresis has been fully established, he has made it a rule to discontinue the mercury and replace it with a mixture of caffein and spirits of nitre with infusion of broom-tops. If the mercury be continued too long there is the risk of setting up stomatitis; and in any case it is wise while the remedy is being taken to wash out the mouth several times a day with a suitable antiseptic solution.

2. **Serotherapy of Diphtheria.**—Goodall is averse to using antitoxin as a prophylactic. He says that not only might it happen that the person treated was especially and peculiarly susceptible to the action of serum, even if he was not known to be asthmatic, but supposing he was not naturally susceptible, it would not be unlikely that by the injection one would render him artificially so, in which case, if subsequently it were found to be necessary to use antitoxin remedially, he would run the risk of undergoing a very unpleasant illness. There are outbreaks of diphtheria in institutions for the care of children, in which, Goodall thinks, the use of antitoxin as a prophylactic, given cautiously and after due inquiry into the children's life history, may be justified. But he is strongly of the opinion that an indiscriminate use of serum as a prophylactic is not only unnecessary, but unjustifiable.

3. **Argyll-Robertson Sign in Cerebral Syphilis.**—In a recent analysis of forty-eight cases of syphilis of the brain and twenty-one of the cord, sixty-nine in all, Clarke obtained the following results with regard to the Argyll-Robertson pupil: In every case there was a clear history of syphilis, or some undoubted syphilitic lesion, and, in addition, in the later cases Fleming's test was positive. Out of the sixty-nine cases, the Argyll-Robertson pupil was present in two of cerebral syphilis. One patient was a man, aged 32, apparently with syphilitic meningitis of the convexity; he had headaches, was apathetic, forgetful, depressed, with indistinct or slightly slurring speech and exaggerated knee-jerks. He showed

no improvement under treatment, and his symptoms suggested the possibility of an early stage of general paralysis. The other patient was a woman, aged 45, who suffered from right facial paralysis twelve years ago, five years ago was under Clarke's care for cerebral syphilis, with right hemiplegia and Argyll-Robertson pupil, and has developed on the hemiplegia a typical tabes dorsalis. In another patient there was paralysis of the right third nerve, with complete iridoplegia, the left pupil did not react to light on admission, but recovered fully under treatment. In six patients the pupil reaction to light was sluggish, but not absent, and in three it became much brisker after treatment. One patient suffered from epileptiform fits, both general and localized, with headache and vomiting; two from hemiplegia, with headache and vomiting; one from meningitis of the convexity, with hemiparesis, cranial nodes and double optic neuritis; the fifth was a patient with hereditary syphilis, with cerebral symptoms and optic neuritis; and the sixth was a patient suffering from syphilitic cerebrospinal meningitis, with hemiplegia and intense optic neuritis. Optic neuritis, in varying intensity, was present, therefore, in three of the six patients with sluggish reaction; optic neuritis does not, of course, abolish the light reaction.

Of the twenty-one spinal cases, in one the light reaction was sluggish, and in two the Argyll-Robertson sign was present. Of the latter, one was a rather remarkable case. The patient was a man, aged 32, who had had left hemiplegia two years before, from which recovery was not complete. When admitted, he was dull, apathetic, and had some mild delusions as to place and as to his circumstances. The cord affection corresponded to Erb's syphilitic spinal paralysis, and was of very gradual onset, with the usual affection of the bladder, great exaggeration of deep reflexes, and double extensor plantar reflex. The pupils were very small. Under mercurial treatment he made an unexpectedly good recovery, both as to his mental and physical state, and was able to return to work. The Argyll-Robertson sign persisted. In the other case the cord affection was of the same kind, with no affection of sensation, no ataxy, and no symptoms, except slight incontinence, beyond those clinically referable to degeneration of the pyramidal tracts; the disease was also of very gradual onset. It is an interesting point that the only cases presenting the Argyll Robertson sign among Clarke's cases of syphilitic disease of the cord are cases belonging to the clinical group of syphilitic spastic paraplegia, first described by Erb.

7. **Poisoning After Small Doses of Acetylsalicylic Acid.**—Morgan reports a case of a rare idiosyncrasy to acetylsalicylic acid, a vasomotor neurosis, allied to angio-neurotic edema, but without visceral symptoms. Half an hour after taking 5 grains of the drug, the patient noticed that her lips were swollen. The swelling spread rapidly all over the face, and finally the tongue and throat became affected. In twenty-four hours all swelling had disappeared. Several months later the patient was told to take the drug again. Within an hour she became very anxious and restless, her face was enormously swollen, especially the eyelids, lips and nose. The tongue was swollen so much that it was with difficulty protruded between the teeth. The fauces also were much swollen, and she complained of great discomfort in her throat. There was no headache, but she complained of her head being "funny and uncomfortable." On her hand and forearms there was an urticarial rash. The pulse was 110, feeble. The pupils were moderately dilated, and the conjunctiva of both eyes were bloodshot. Next morning the swelling was much less, but the eyelids were still very puffy, and the vessels of the conjunctiva engorged; in fact, this symptom did not disappear for a week. The pulse was 80, and she felt well.

Lancet, London

February 11

8 Clinical Aspects of Emotion and Action. T. C. Shaw.
9 *Color Vision and Color Blindness. F. W. Edridge-Green.
10 *Pathology and Treatment of Injuries Caused by Electricity. Sir T. Oliver.
11 *Possibility of Modifying the Effect of an Inoculation of Tuberculin by Combining with It a Local Anesthetic. H. W. Crowe.
12 Pantopo
13 A New ous Oxid, with or Without C Operations. N. S. H. Warner.

9. This article also appears in the *British Medical Journal*, Feb. 11, 1911.

10. **Treatment of Injuries Caused by Electricity.**—There are two main theories as to the cause of death in electric shock: (1) inhibition of the medulla oblongata, leading to arrest of respiration, followed by cessation of the beat of the heart; (2) death directly from the heart without the intermediary of respiration. Oliver's experiments seemed to show death to be of cardiac origin. After death from electric shock there is usually rigidity of the muscles. The heart is flaccid, especially the right ventricle, which contains dark fluid blood. The left ventricle may be empty. The lungs may show nothing abnormal, or there may be signs of congestion, if death was not immediate and artificial respiration had been resorted to. The pupils are dilated. The brain and spinal cord may be congested, and the abdominal veins and viscera full of dark blood. There may be hemorrhage in the brain and petechial hemorrhages in the pleura and pericardium. Although the blood is usually fluid, it is occasionally coagulated. On spectroscopic examination, it is found to contain both oxyhemoglobin and reduced hemoglobin. Chromolytic changes in the cerebral cells were found in two cases reported by Oliver. For slight shock followed by recovery no treatment is required. For burns the application of boric acid compresses, or charcoal poultices, if there is much destruction of tissues, is called for. When an injured workman is in contact with or cannot lose grip of live metal, the greatest care must be exercised in touching his body, for any attempt to separate the two might be followed by a disastrous shock to the person rendering assistance. Under any circumstances the breaking of the current means a fresh shock to the individual concerned. Once the circuit is broken, should there be no signs of life, the body must be placed on its back and artificial respiration immediately resorted to and continued for a considerable time, even if there is no quick response. In Oliver's experiments he succeeded in resuscitating animals whose heart beats and respiration had ceased for several minutes.

11. **Inoculation of Tuberculin with Local Anesthesia.**—The only question on which Crowe attempts to throw light is whether the inoculation of tuberculin produces its effect in any degree by stimulating afferent nerve endings at the site of the injection. His procedure has been to combine a considerable proportion of a 4 per cent. solution of beta-eucain lactate with varying doses of tuberculin in cases of phthisis under treatment by vaccines. Daily observations of the opsonic index were recorded during the whole course of the investigation, and as far as possible the blood specimens were taken at the same hour of the day. There was a distinct difference in the response to an inoculation of tuberculin in phthisis if eucain was combined with the dose. The chief proof of this rests on the form of opsonic curve which follows such doses as compared with doses in which no eucain was given. There is a possibility that an inoculation of tuberculin produces its effect, in part, by stimulating the central nervous system. Such stimulation may take place at the site of the inoculation.

Indian Medical Gazette, Calcutta

January

14 The Uncovenanted and Subordinate Medical Services. D. G. Crawford.
15 Cholera in India. P. Hehir.
16 Arrows and Arrow Wounds in Manbhum. S. Anderson.
17 The Health of a Bengal District. H. Sen.
18 Two Cases of Ascariasis. A. D. Stewart.
19 General Paralysis of the Insane in a Native of India. P. Heffernan.
20 The Ipecacuanha Treatment in Liver Abscess. E. Muir.
21 Traumatic Rupture of the Prostatic Urethra. L. P. Stephen.

Journal of Laryngology, Rhinology and Otology, London

February

22 A Clinical and Bacteriologic Study of Thirty-Six Cases of Mastoid Suppuration, Including Ten Cases of Intracranial Complication. A. L. Turner and F. E. Reynolds.

Practitioner, London

February

23 Improved Diagnosis of Cancer of the Large Intestine. A. E. Barker.
24 Extraperitoneal Cesarean Section and Its Scope in Modern Obstetric Surgery. A. W. Russell.
25 General and Spinal Anesthesia. A. Brownlee.
26 Indications and Contra-Indications for Spinal Anesthesia. E. C. Ryall.
27 Cocain Anesthesia in Minor Surgery. L. R. Braithwaite.

28 Administration of Anesthetics on the Open Mask. W. Rankin.
29 Behavior of the Blood-Pressure in Chloroform and Ether Anesthesia, with Special Reference to Shock. H. P. Fairlie.
30 Surgical Treatment of Chronic Pleural Effusions. J. L. Stretton.
31 Neuroretinitis in Anemia. R. B. Hird.
32 *Relation of the Chemical Compositions of Human Milk to Chronic Diarrhea and Eczema in Nurslings. W. J. Maloney.
33 Treatment of Acute Pneumonia. A. G. Reid.
34 Review of Diseases of Children. H. Thursfield.
35 A Retrospect of Otology, 1910. M. Yearsley.
36 The Ament. A. R. Douglas.
37 Medical Practice in Stuart Times. A. Shepperd.

32. **Human Milk and Diarrhea.**—Maloney found that diet and exercise seem to have little or no influence on the sugar and fat content of human milk. Menstruation may coincide with marked impoverishment in fat. The amount of fat in milk varies as the hour and phase of the food, and also according to individual peculiarities of mothers; a rigorous maternal régime does not appreciably influence the richness of the milk in fat; but an impoverishment may appear simultaneously with the menses. The lactose of human milk is remarkable for the constancy of its amount, which seems indifferent to feeds, days, régimes, and menstrual periods. In sixteen milks examined by Maloney, varying in age from 3 weeks to 7 months, the amount of lactose was only once below 5.28 per cent., and twice above 6.50 per cent. The average age of these milks was 3.12 months, and the average percentage of lactose they contained was 5.82. The percentage of lactose usually attributed to human milk seems, therefore, to be too high. Diarrhea in breast-fed infants whose feeding is carefully directed may persist in some cases owing to excess of fat in the milk; in others, either owing to the presence of an abnormal laxative principle in the milk, or to the undue irritability of an otherwise normal intestinal tract. In none of Maloney's cases could excess of sugar be incriminated. A state of chronic diarrhea prevailed in seven nurslings whose feeding was carefully directed, and whose food was not abnormally rich either in fat or in lactose. Regulation of the mothers' régime did not influence this diarrhea. From three to six, usually four, motions occurred daily; they were characteristically of a light yellow color, semifluid, inoffensive, and without curds. The infants steadily gained in weight, were apparently content, enjoyed an average amount of sleep, and were not unduly querulous. Four of these babies had a history of a persistent tendency of looseness of the bowels from birth. This benign diarrhea resulted, therefore, says Maloney, either from some relatively harmless laxative principle in the mother's milk, or from an excessive irritability peculiar to the infant's intestine. If, on transferring the child for a time to a healthy wet-nurse whose own charge was progressing normally, the diarrhea should cease, the mother's milk would be proved abnormal; if, however, it should continue, the infant's intestine would be proved hypersensitive. The three or four motions each day represented the child's habit. The only treatment required was to discourage weaning and to reassure the mother; for her benefit a little bismuth was usually given to the child. Eczema may arise in nurslings from overfeeding, from richness of the milk in sugar, and from the influence of a faulty maternal hygiene on the chemical composition of the milk. But undoubtedly it may, as in Maloney's six cases, exist in the absence of overfeeding and when the milk contains only a normal amount of sugar. It may remain unaffected by the sacrifice of all the maternal indiscretions of diet. Probably it may arise independently of its commonly alleged factors; yet the co-existence of diarrhea and eczema in three babies makes Maloney reluctant to exonerate the milk-supply in any case of eczema occurring in a nursling.

Medical Press and Circular, London

February 1

38 Vaccination Treatment of Gonorrheal Complications. W. Friedländer and H. Reiter.
39 Treatment of the Chronic Stage of Infantile Spinal Paralysis in General Practice. F. Hernaman-Johnson.
40 Modern Treatment of Gonorrhea. C. F. Marshall.
41 Urine Analysis. J. B. Smith.

February 8

42 Prognosis in Pulmonary Tuberculosis. T. D. Lister.
43 Treatment of Puerperal Eclampsia. W. J. Smyly.
44 A Case of Eclampsia. K. Maguire.
45 Pathology of the Embryo in Relation to Abortion. J. Lindsay.
46 Modern Treatment of Gonorrhea. C. F. Marshall

Bulletin de l'Académie de Médecine, Paris

January 24, LXXV, No. 4, pp. 59-108

47 *Vaccination Against Typhoid. H. Vincent and Committee.
48 Cicatricial Stenosis of the Esophagus Due to Cardiospasm. A. Chauffard and G. Guisez.

47. **Vaccination Against Typhoid.**—Vincent summarizes in detail the efforts in this line in various countries and the results obtained, presenting finally the conclusions of the majority of the committee of ten that had been appointed to study the subject. The conclusions were given in the Paris Letter in THE JOURNAL, February 25, page 601, together with the adverse minority report.

Presse Médicale, Paris

January 28, XIX, No. 8, pp. 65-80

49 Experiences with Salvarsan in Nervous Disease. G. Marinesco.
50 Local Anesthesia in Treatment of Tuberculosis of the Larynx. M. Boulay.
51 Physiology of the Corpus Callosum. J. Lévy-Valensi.
52 Recovery in Two Cases of Atrophic Cirrhosis of the Liver. Le Play and Doury.

February 1, No. 9, pp. 81-88

53 Emotional Shock and Confusional Psychoses. J. Seglas and A. Collin.
54 *Continuous Stream of Oxygen in Treatment of Diffuse Peritonitis. S. Banzet.

54. **Continuous Stream of Oxygen in Treatment of Diffuse Peritonitis.**—THE JOURNAL, May 28, 1910, page 1829, mentioned encouraging results that have been obtained by flushing the abdominal cavity with a constant stream of oxygen which escapes through drains at the lowest points. Banzet's experience in a case of diffuse peritonitis in a woman of 30, confirms the advantages of this simple measure. Besides the biologic stimulating effect of the oxygen, the gas helps, he asserts, to expel all morbid products and fluids. From the previously almost dry drains poured a flood of serous and purulent fluid after the jet of oxygen was turned into the abdomen. Banzet did not have at his disposal a tank with a stopcock to regulate the flow, and consequently he had to apply the oxygen from rubber bags, a bag containing 20 liters taking about half an hour to empty itself. The drains should not be perforated, he says, and he found that the oxygen acted more effectively when it was introduced through the different drains in turn.

Semaine Médicale, Paris

February 1, XXXI, No. 5, pp. 49-60

55 *Determination of Hydremia by Refractometer. (L'hydrémie chez les brightiques et las cardiaques oedemateux; son étude à l'aide de la méthode réfractomètrique; comparaison de ses variations à celles du poids.) F. Widal, R. Benard and E. Vaucher.

February 8, No. 6, pp. 61-72

56 *Combinations of Drugs in Therapeutics. (Les associations médicamenteuses et le renforcement de l'activité d'un médicament par une autre substance ajoutée à petite dose.) P. Chapelle.

55. **Estimation of Hydremia in Nephritis and Cardiac Edema.**—Widal has long insisted on the importance of daily weighing of patients with a tendency to failing compensation and chronic kidney trouble as it is thus possible to detect retention of fluids before the edema becomes clinically manifest. The blood itself early becomes diluted, and he has found that the refractometer is a sensitive index of the degree of this dilution. He here gives the clinical findings in a number of cases in which both the changes in weight and the refractometric hydremia index were recorded in parallel tracings and the various types of the curves determined for interstitial and epithelial nephritis and in heart disease alone or associated with kidney disease. The findings are also recorded during and outside of courses of salt-poor dieting and administration of digitalis. They show that the serous infiltration of the tissues is accompanied by corresponding dilution of the blood; an "edema of the blood," he remarks, is the natural accompaniment of the edema of the tissues. As the weight declines, the refractometric index rises, but the change in weight becomes apparent first. The refractometer shows that as the excess of fluid is thrown off first from the tissues, the blood remains diluted for a time, and only later becomes concentrated. The action of digitalis is shown by the refractometric findings as it causes a sudden influx of the edema fluid into the blood. The fluids impregnating the tissues interfere with their normal nutrition and when the fluid is drained

away part of the constituents of the cells are washed away with it, and the patient emerges from the course of treatment much thinner, but recuperates afterward like a typhoid convalescent. The increase of weight later may be due to reaccumulation of the edema, and this can be determined by the refractometer; if the curve persists within normal limits, there is no dilution of the blood and no paralleling edema of the tissues. The refractometric findings also reveal at once if the course of dechloridation has not been continued long enough; the drop in the index is a warning to abstain still longer from salt.

56. **New Combinations of Old Drugs.**—Chapelle reviews recent research which has shown that the therapeutic efficiency of certain drugs can be materially enhanced by addition of even a minute amount of some other drug. The data learned recently in regard to the action of ions, of the colloids and metallic ferments, superficial tension, radio-activity, anaphylaxis, immunity, etc., have thrown much light on biologic processes and have shown the infinite variety of conditions in which there is an unstable balance between the cellular elements and the media laving them, so that the possible increased efficacy of combinations of drugs no longer seems paradoxical. They open new horizons and virgin fields for applying the old weapons in new ways and combinations.

Berliner klinische Wochenschrift

January 30, XLVIII, No. 5, pp. 197-240

57 *Radium in Gout and Rheumatism. W. His.
58 *Pylorospasm. M. Einhorn (New York).
59 *Therapeutic Action of Shutting Off Part of Circulation. (Künstliche Verkleinerung des Kreislaufs als wirksame Heilmethode.) J. Tornai.
60 *Cirrhosis of the Liver. (Entstehung des Ascites.) F. Klopstock.
61 *Experiences with Subcutaneous Arthrodesis. S. Peltesohn.
62 Tonsillectomy. (Totale Ausschälung der Rachenmandeln.) Sturmann.
63 Transmission of Rat Sarcoma and Mouse Carcinoma to New-Born Animals. A. Buschke.
64 Infectious Conjunctivitis in the Samoan Islands. (Epitheliosis desquamativa conjunctivae.) A. Leber and S. v. Prowazek.
65 *Mydriatic Action of Organ Extracts and Fluids. E. Catapano.
66 Medical Impressions of America. W. Nagel.
67 *Differential Reaction in Human and Cow's Milk. G. Tugendreich.

57. **Treatment of Gout and Rheumatism with Radium.**—His thinks that there are great therapeutic possibilities for internal medicine in radium treatment, his experience having shown the efficacy of radium emanations in a number of cases of gout and rheumatism as adjuvants to the ordinary measures. He gives the radium emanations usually by inhalation, having the patients stay for two hours daily in air containing from 2 to 4 Mache units, equivalent to 1,000 electric units. The apparatus used provides a stream of oxygen bubbling through a fluid containing the radium salt and saturated with its emanations, a ventilator distributing the emanations through the room. He regards it as important to distinguish between gout and rheumatism as the dietetic indications are important and vary widely. The only criterion is the presence of uric acid in the blood, and he deplores the fact that he knows of no simple and easy technic for detecting uric acid in the blood. The only reliable method, he states, is that of Krüger and Schmidt, applied to as much as 80 or 100 c.c. of blood. Since he has systematically investigated the blood by this method, he has had many surprises, finding that uricacidemia is evidently responsible for the frequent myalgias in the back of the neck, shoulders and lumbar muscles in many cases while they are of rheumatic origin in others. Many insidious and symmetrical affections of the smaller joints, which seem to be rheumatic, are shown by the blood-test, he asserts, to be due to uricacidemia, as also neuralgia, especially sciatica, in many cases. He hopes that a reliable unit for work with radium will soon be developed and possibly that some commoner substance may yet be discovered with radio-active powers. In conclusion, His remarks that old exostosis, indurations, loose bodies in joints and extreme atrophy of the muscles and similar irreparable conditions are not amenable to radium or any treatment; the best results may be anticipated in the more recent cases of not too long duration, in which the main changes are merely from infiltration of the joint capsule. See Ab. 3, page 700.

58. Practically the same article was published in the *Medical Record*, New York, Jan. 21, 1911.

59. **Shutting Off Part of the Circulation as a Therapeutic Measure.**—Tornai applied Klapp's suggestion to shut off part of the circulation as an improved method of giving anesthetics, but Tornai uses it without regard to any drug. He found that by applying a constricting band to arrest the venous circulation in the limbs, the heart had less than half the former area to serve and could work with so much less blood that its task was proportionately lightened, and it was thus given a chance to recuperate. He has applied this as a therapeutic measure in a number of cases, shutting off the circulation in the limbs for twenty or thirty minutes every morning for a week or so. The effect was striking, he reports, in cases of fatigue and dilatation from stasis of the right heart, the right ventricle being too weak to empty itself completely during the systole. By holding back part of the blood, the right ventricle was able to accomplish its task better, with less expenditure of energy, and was given a chance for rapid recuperation. The most striking benefit was obtained with mitral affections, but benefit was also realized even with degeneration of the myocardium and with beer heart, the tachycardia, arrhythmia and insufficient systole subsiding. After release from the constriction the pulse becomes slower and more regular. In the severer cases in which heart tonics fail, little can be expected from the constriction method, but he has obtained good results in a few exceptional cases even of this kind. The relief from the measure is so great that often the patients await its application with impatience. Diuresis is generally promoted, and there was profuse sweating in some cases as the constricting bands were removed; this must be done very slowly and gradually. He uses rubber tubing for the constricting band as for the Momburg technic. He attempted to enhance the action of drugs by this means, finding that a small amount had an immeasurably greater effect when the limbs were excluded from the circulation, but in order to accomplish this the arterial circulation in the limbs had to be arrested likewise, and the constriction kept up for an hour or more; the patients objected to this, so he has abandoned the method.

60. **Etiology of Cirrhosis of the Liver.**—Klopstock presents arguments to show that ascites is not always due to disturbances in the portal circulation, but is more liable to be the expression of chronic peritonitis. This theory throws light on the infectious and toxic factors in the origin of cirrhosis, and it also suggests that the Talma operation of omentofixation is not applicable in every case. The very fact that the ascites was cured immediately by this operation in a number of cases showed that the cure could not have been due to establishment of a collateral circulation as this requires time to develop. He knows of over 300 cases in which the Talma operation has been employed, but permanent benefit was obtained in only 30 per cent. of the 274 cases compiled by Bunge. It is adapted only for the cases in which the portal circulation is actually the causal factor.

61. **Subcutaneous Arthrodesis.**—Peltesohn reports three cases in which he followed Bade's technic of hammering an ivory peg into the joint. The outcome was a failure in every case, although all the wounds healed by primary intention, and there was no reaction of any kind on the part of the tissues to the presence of the foreign body. The trouble was in the ivory pegs which seemed to disintegrate; one broke, and in each case the ivory had to be removed.

65. **Mydriatic Action of Organ Extracts.**—Catapano describes experimental work which demonstrated that extracts of the suprarenals and hypophysis have a distinct and intense mydriatic action, while a weaker action was observed in the same line with extracts of the thymus, kidney, pancreas, liver, ovaries, testicles and muscle tissue, but not with the thyroid, brain or spleen. The mydriatic action is thus shown to be not an exclusive property of the suprarenals.

67. **Differentiation of Human and Cow's Milk.**—Tugendreich states that human milk gives a brown color reaction, while there is no reaction with cow's milk, when 3 c.c. of the milk are mixed with an equal amount of a 1 or 2 per cent. solution of silver nitrate and rapidly heated to boiling, three times in succession. He thinks this color reaction is connected with the

urine reaction mentioned by Engel and Turnau, whose article was abstracted in The Journal, February 18, page 546. [A later article by Boschan explains the reaction as merely the reduction of the silver nitrate by the chlorid in the urine. The brown stain occurs when the proportion of chlorids is low.]

Correspondenz-Blatt für Schweizer Aerzte, Basel

February 1, XLI, No. 4, pp. 113-144

68 *Varying Susceptibility to Opium with Age. E. Döbeli.

68. **Opium for Children.**—Döbeli reports extensive experimental research and clinical experiences which supplement the data in the literature, all proving that infants are especially susceptible to opium, but that older children are no more sensitive than adults if the dosage is proportional to their age. Suckling rabbits were twice as sensitive to opium and morphin as adult animals, but after the young rabbits had been eating ordinary food for a time they were no more sensitive than adults. He found, however, that the susceptibility to codein was alike at all ages.

Deutsche medizinische Wochenschrift, Berlin

February 2, XXXVII, No. 5, pp. 193-240

69 Treatment of Benign Superficial Tumors. (Gutartiger Hautgeschwülste.) H. Paschkis.
70 Fifth Edition of the German Pharmacopeia. (Pharmakopoea Germanica Ed. V, 1910.) E. Harnack.
71 *Lack of Durable Action of Salvarsan in Neutral Suspension in Treatment of Syphilis. T. v. Marschalko.
72 *Technic of Intravenous Injection of Salvarsan. (Zur Frage der Gefahr endovenöser Einspritzung saurer Lösungen von Salvarsan.) v. Notthafft. (Nadel für intravenose Injektion von Salvarsan.) H. Loeb.
73 Serodiagnosis of Syphilis. J. Traube.
74 *Treatment of Lupus of Mucous Membranes. (Behandlung des Schleimhautlupus.) M. Senator.
75 *Symptoms of Thyroid Intoxication After Iodid Medication. G. Wolfsohn.
76 [illegible] m Anesthesia in Normal Deliveries. [illegible] normal Geburten.) B. Ehrlich.
77 [illegible] in the Donau River. E. Ströszner.
78 Action of Hydrogen Dioxid on Enzyme-Producing Property of Mucosa and on the Enzymes. (Einwirkung von Wasserstoffsuperoxyd auf das enzymproduzierende Vermögen der Schleimhaut und auf die ausgeschiedenen Enzyme.) L. E. Walbum.
79 *The Picric Acid Test for Seminal Fluid. (Neuer Beitrag zu meiner Spermareaktion.) M. Barberio.
80 *Fatal Diabetes Mellitus in Five Brothers and Sisters Between Ages of 4 and 11. T. Langaker.
81 Venereal Disease in Goethe's Poetry. (Die "Liebeskrankheit" in Goethes Dichtung.) M. Levor.

71. **Salvarsan in Syphilis.**—Marschalko has never witnessed any serious signs of arsenic intoxication in the course of salvarsan treatment of almost 400 patients, but he warns that subcutaneous and intramuscular injections have no durable curative action. In fifty-four cases in which the patients have been under continued observation for from two to five months, recurrence has been the rule in nearly 50 per cent., and he advises other physicians not to waste their efforts with these ineffectual technics, but to use the intravenous technic which, he states, seems to be far more reliable in respect to the durable action of the drug. He ascribes great importance to the Wassermann reaction, having found it a most valuable guide in over 4,000 cases of syphilis in the last two and a half years. In most of the cases in which salvarsan was given the Wassermann reaction gradually declined in intensity, but it became absolutely negative in only a few. He thinks that salvarsan given by the intravenous route, supplemented by mercury, is the technic for the future. He refuses now to inject salvarsan when there is a tendency to paralysis, as one patient who had had paralysis for some years died two weeks after injection of 0.3 gm. of salvarsan. There seemed to be considerable improvement for ten days after the injection, but then severe paralysis developed; there were no symptoms of arsenic intoxication at any time.

72. **Technic for Intravenous Injection.**—The danger with intravenous injection is that the needle entering the vein may go too far and injure the posterior wall of the vein. To avoid this secondary injury, von Notthaft always exposes the vein, incises it between clamps and then cautiously introduces the needle in the incision. This technic cannot be applied casually in the office or home.

74. **Treatment of Lupus of Mucous Membranes.**—Senator states that expert examination of the mucosæ is indispensable for detection of all foci and lesions, and that surgical treatment will succeed while other methods are liable to fail. Long-continued supervision is necessary to attack recurrences at their first inception.

75. **Thyroid Intoxication After Iodin Medication.**—Wolfsohn reports the case of a woman of 42 who was given potassium iodid in treatment of leg ulcer, as the lack of benefit from other measures suggested a possible syphilitic factor in the lesion. The day after the iodid had been commenced, the patient complained of enlargement of the neck and malaise, with tremor of eyelids, tongue and fingers; the pulse increased to 128 and the heart-beat was unusually loud and fast, with slight enlargement to the left; there was no fever. The iodid was suspended at once and the symptoms had disappeared by the end of a week. Three months later, the leg ulcer showing no improvement, it was dressed with vioform, a powder containing iodin, and in half an hour the entire leg burned and itched and in the evening the neck had become enlarged and an erythema developed, with tremor; both lobes of the thyroid were found enlarged, but not tender. During the intervals and beforehand there had never been any signs to call attention to the thyroid. In another case a woman of 32, with an old tendency to goiter and nervousness, developed Basedow symptoms after a course of iodids and thyroid tablets. The injury from this treatment persisted unmodified after the suspension of this treatment and the exophthalmic goiter syndrome has continued a progressive course during the five years since. Injection of 5 c.c. of this patient's serum into a guinea-pig evidently induced a special hypersusceptibility to iodin in the animal as it died with signs of anaphylaxis when injected with a little iodin which the control animals bore without disturbance. Wolfsohn's experiences further warn of the necessity for constant supervision of patients taking iodin, whether there is a manifest goiter or the thyroid is not palpable. The possible injury from iodin cannot be estimated beforehand; even minimal amounts are liable to induce signs of severe thyroid intoxication.

79. **Picric-Acid Test for Seminal Fluid.**—Barberio here reviews all that has been published on this forensic test for differentiation of human seminal fluid, the general conclusions testifying to the sensitiveness and reliability of the test. An equal volume of a saturated aqueous solution of picric acid is mixed with the fluid to be examined, after filtration; the specific crystals soon form even in a concentrated solution of five-year-old fluid. The crystals dissolve if the mixture is heated, but after filtering they recrystallize out again as the fluid cools. The crystals are insoluble in cold water, but dissolve in dilute hydrochloric acid and in solutions of the halogen salts of the alkaline metals. The specific crystals are octahedrons, and the findings parallel those with the Florence test, but the reaction can be obtained for years after the Florence test has ceased to give positive findings.

80. **Diabetes Mellitus in Children.**—Langaker reports from Christiania the history of a healthy family with eight children, all apparently robust, until one after the other five of the children died between the ages of 4 and 11 of typical diabetes mellitus. The environment was good and the children well cared for, but five died thus in the course of nine years. Nothing grossly pathologic was found at the necropsy of the first child that died but in the last child the pancreas seemed to be much degenerated; the others were not examined post mortem.

Medizinische Klinik, Berlin

January 29, VII, No. 5, pp. 165-206

82 Modern Progress in Treatment of Nervous and Mental Diseases. A. Pilcz.
83 *Tuberculosis of Iris After Chilling. (Iristuberkulose durch Erkaltung.) B. Fleischer.
84 *Differential Diagnosis of Exophthalmic Goiter. (Zur Klinik des Morbus Basedowii und seines Grenzgebietes.) C. Kraus.
85 Dissecting Metritis and Uterine Abscess. J. Risch.
86 Suprarenal Treatment in Bronchial Asthma. E. Pick.
87 Chemotherapy of Spirilloses. P. Uhlenhuth.
88 Treatment of Earache. (Inwieweit kann man auch ohne Ohrenspiegeluntersuchung den Ohrenschmerz behandeln?) F. Bruck.
89 Technic for Wassermann Reaction. A. Alexander.

83. **Acute Tuberculous Iritis After Chilling.**—The importance which industrial insurance is assuming in Germany lends interest to the case reported: A boy of 14 was driving a wagon through a small stream when the pole-pin broke and

he had to work breast-high in water for some time to remedy the trouble. A few days later he developed acute tuberculous iritis of the right eye, compelling enucleation. Signs of a slight apical process were detected with the Roentgen rays. Fleischer admits the possibility of the effects of the chilling mobilizing bacilli in the lungs and setting up an acute process in the eye, but he does not regard it as very probable. The lack of similar cases on record in the literature testifies against the etiologic importance of the chilling; otherwise such occurrences would be common.

84. **Differentiation of Exophthalmic Goiter.**—Kraus calls attention to sudden attacks of intense pain in the upper abdomen and to increased radiation of heat as signs of possibly latent exophthalmic goiter. The abdominal pain in two of the most typical of his fifty cases came on suddenly, resembling gall-stone colic or the crises of tabes, and was so intense that only large doses of morphin could control it. The celiac plexus was tender but not the gall-bladder region. The attacks did not correspond to intake of food; they came on generally at night and application of cold or heat gave no relief. The pain was ascribed at first to spasm of the abdominal vessels, and drugs to act on the kidneys were given but without effect. One patient also had the typical "giving way of the legs" sign of exophthalmic goiter but there was no paralysis; the extensors of the knees gave way completely all at once and the patient required aid to get up from the kneeling posture. The very severe acute condition in the other patient had evidently been aggravated by local application of iodin. After exclusion of all other causes for the pain, nothing was left but the assumption of action on the solar plexus of the toxin causing the exophthalmic goiter. In a third case, a man of 28 had suffered for seven years from mild exophthalmic goiter which was finally aggravated by overwork. Then attacks of pain came on in the night accompanied by vomiting. In a fourth case the spasmodic pain was the first symptom of trouble; a man of 52 was suddenly attacked with violent abdominal pain—neuralgia as he supposed. The pain persisted and he lost 21 pounds in weight in two weeks and by the end of the month his weight had dropped from 172 to 118 pounds. Several courses of sanatorium treatment brought no relief. By the end of three months symptoms of exophthalmic goiter developed, including restlessness insomnia, palpitations and pains in the shoulders, but the appetite remained good. On suspicion of "Basedowoid," he was given antithyroidin and the pains gradually subsided under this and hydrotherapy with application of the continued current to the neck. The Basedow triad since has become more pronounced but the general health has improved and there has been no recurrence of the abdominal pains. Another important sign of hyperfunctioning of the thyroid is the increased radiation of heat from the skin. The temperature in the axilla is liable to be as high as that in the mouth or even a trifle higher. The burning skin with otherwise latent exophthalmic goiter may suggest latent tuberculosis. Cardiovascular neuroses may simulate exophthalmic goiter but the lack of rapid drop of weight speaks against the latter. Hyperthyroidism may induce a condition resembling chlorosis, and during the menopause disturbances may develop suggesting the Basedow triad. This borderland disturbance deserves special attention, Kraus remarks, as the prevailing tendency to give iodids in prophylaxis or treatment of arteriosclerosis is liable to induce these nervous disturbances or aggravate a latent tendency to exophthalmic goiter. Another sign of hyperfunctioning of the thyroid is the tendency to frequent and copious stools. This sign is particularly instructive when individuals long constipated suddenly find bowel functioning becoming regular as other signs of hyperfunctioning on the part of the thyroid develop. In all dubious cases the scale is turned by the disproportion between an abundance of nourishing food and the progressive decline in the body weight.

Münchener medizinische Wochenschrift

January 31, LVIII, No. 5, pp. 233-288

90 *Experiences with Salvarsan. C. Kopp, Treupel and Levi.
91 Syphilitic [illegible] New-Born Infants. K. Baisch.
92 Te[illegible] jection of Salvarsan. A. Stühmer.
93 *De[illegible] Blood-Pressure by Palpation of [illegible] Artery. H. Ehret.
94 *Treatment of Eclampsia by Method of Stroganoff. E. Roth.
95 *Rigid Arteries in Children. (Arterienrigidität im Kindesalter.) F. Hamburger.
96 *Exercises in Repose. (Ueber Ruheübungen und Ruheübungsapparate.) L. Hirschlaff.
97 Transformation of *Staphylococcus aureus* into *Staphylococcus albus*. E. Paller (New York).
98 Multiple Arthritis After Test Injection of 0.5 mg. Tuberculin. W. Diem.
99 Resection of Larynx or Esophagus. R. Zimmermann.
100 Teaching of Pathology in the United States. H. Chiari.

90. **Salvarsan in Syphilis.**—Kopp was discouraged by the frequent local necrosis with subcutaneous injection, and he now uses the intravenous route exclusively. In his experience with 130 cases he had this necrosis in 20 per cent. of the subcutaneous cases, but has had no mishaps in the forty-eight patients treated by the intravenous route. In three cases the injection was made soon after infection, before the primary exanthem had developed, and none of the three patients has shown any sign of recurrence during the five months since, so that he regards them as probably cured.

Treupel and Levi have also changed to the intravenous route but warn that this method cannot be applied to outpatients. In one case they noticed total facial paralysis and considerable deafness after two injections of salvarsan, the symptoms resembling those reported by Finger in a few cases.

93. **The Diastolic Blood-Pressure and Palpation of the Ulnar Artery.**—Ehret has compared the findings with his method of palpation of the ulnar artery with those from auscultation, and with von Recklinghausen's method of oscillation. He says that with a simple Recklinghausen cuff, a rubber bulb and a manometer both the systolic and diastolic pressure can be determined by his method with as much precision as with a more expensive apparatus. He gives the conclusions from study of the findings on application of his method in over 1,000 cases.

94. **Stroganoff's Prophylactic Method of Treating Eclampsia.**—Roth reviews the experiences at the clinic in charge of Leopold at Dresden where Stroganoff's method was applied in fifty cases. The results were encouraging and justify, he declares, the adoption of this method in routine treatment of eclampsia in the home when removal to an institution is impracticable for any reason. The main point is to commence the treatment early and carry it through systematically according to Stroganoff's directions. [They were given in The Journal, July 3, 1909, page 86.]

95. **Rigidity of the Arteries in Children.**—Hamburger has frequently noticed unusual size and hardness of the arteries in children between the age of 8 and 14; the findings are sometimes so pronounced that they suggest arteriosclerosis or kidney disease, but he ascribes the phenomenon to nervous vasomotor influences. Certain signs of neurasthenia and nervous irritability can usually be detected in these children, and this exaggerated tonus of the artery is encountered during the years when school life makes special demands on the nervous system. Disturbances of this kind are more common in ambitious, studious children.

96. **Exercises in Repose.**—Hirschlaff has devised a system of exercises which aim to relax all the volitional muscles while excluding external impressions and promoting mental concentration. The patient reclines on a lounge, the eyes covered and the attention concentrated on his slow breathing. He has the patient do this for five respirations and repeat every hour or so during the day. A little perfume on the upper lips helps to concentrate the attention, and he describes other devices to promote absolute repose of the muscular and nervous systems in treatment of cramps and tics, professional neuroses, chorea, tremor, etc.

Therapeutische Monatshefte, Berlin

February, XXV, No. 2, pp. 81-144

101 *Treatment of Diabetic Acidosis. L. Lichtwitz.
102 *Albumin Milk in Infant Feeding. (Erfahrungen mit Eiweissmilch.) E. Welde.
103 Lime Metabolism in Connection with the Food. (Der Kalkstoffwechsel in seiner Abhängigkeit von der Nahrung.) M. Kochmann.
104 The Organism Does Not Become Accustomed to Action of Certain Narcotics. (Ueber die Gewöhnung an die Narkotika der Fettreihe.) F. Japhé.

101. **Substitutes for Sodium Bicarbonate in Acidosis.**—Lichtwitz discusses the mechanism of the acid intoxication in diabetes and shows that sodium salts with anions capable of combustion are preferable to the bicarbonate. Sodium citrate is advantageous as its taste permits it to be added to certain dishes or given with lemon juice as lemonade. It does not cause disturbance in the stomach like the bicarbonate; the appetite does not suffer, and he has never observed diarrhea even with 50 gm. (750 grains) a day. In a typical case 20 gm. a day of the bicarbonate caused diarrhea; it was then suspended and 30 gm. of the citrate given daily, which seemed to have an equally good effect on the metabolism while no further bowel trouble was noticed. The elimination of nitrogen also increased under the citrate. The citrate might be injected intravenously in emergencies; the bicarbonate is less adapted for this method of administration on account of its strong alkaline reaction. The citrate has only a weak alkaline reaction and this can be neutralized by adding a little citric acid.

102. **Casein Milk in Infant Feeding.**—Welde reports a year's experience with the Finkelstein and Meyer *Eiweissmilch*; it contains very little sugar and salts and proportionately large amounts of casein. He says that this albumin milk fulfilled all his anticipations and more, and may possibly prove the best substitute for mother's milk, at least during periods of indigestion accompanied with diarrhea. It has the disadvantages of a high price and uninviting aspect and taste. One new-born infant tested thrived on it; three infants with eczema were cured soon after being put on the albumin milk, twenty-three of twenty-five infants with severe indigestion were cured, as also sixteen in twenty in the phase of "decomposition," two of three infants with acute intoxications and six of eight with severe infectious processes. Only seven of the fifty-six very sick babies died, while among those saved were a number who had seemed to be actually moribund. Some of the children taking the "albumin milk" passed safely through an intercurrent influenza. This modification of milk was described in The Journal, July 2 and 30, 1910, pages 93 and 407.

Therapie der Gegenwart, Berlin

February, LII, No. 2, pp. 49-96

105 *Typhoid in Children. (Abdominaltyphus der Kinder.) A. Baginsky.
106 *Syphilis of the Liver. (Luetisches Leberfieber.) O. Huber.
107 Enhancing of Action of Narcotics by Combination with Others. (Verstärkung der Wirkung verschiedener Narkotika speziell des Pantopons durch Skopolamin.) J. R. Hani.
108 Nature of Hysteria. O. Kohnstamm.
109 Anaphylaxis. (Wesen und die Bedeutung der Ueberempfindlichkeit.) E. Friedberger and F. Klemperer.

105. **Typhoid Fever in Children.**—Baginsky discusses the points in which typhoid in children differs from that disease in adults. He feeds the child milk, broth and raw yolks of eggs, with a little wine during the entire febrile stage and convalescence. He thinks the wine is important to keep up the general nutrition. He warns in particular to be on the watch for otitis. The child's heart can be depended on much more than the heart of the adult, and drugs are seldom necessary for disturbances in the heart action, but too much attention cannot be paid to prevention of boils and other disorders of the skin as secondary septic infection may have most serious results.

106. **Febrile Liver Syphilis.**—Huber describes a case in which a man of 31, four years after infection with syphilis followed by energetic mercurial treatment, had violent attacks of pain in the liver radiating to the right shoulder; the liver was much enlarged and after two years and a half fever developed with night sweats and chills. Gall-stones had been diagnosed; no improvement followed systematic medical treatment on this assumption and an operation for the supposed gall-stones followed. None was found but signs of gumma of the liver were discovered; under a single injection of salvarsan the entire syndrome subsided. Tertiary syphilitic liver fever is of the hectic type, intermittent or remittent, with night sweats and more or less pronounced chills. With all this the general health suffers little for a long time. The absence of jaundice is also suggestive.

Wiener klinische Wochenschrift, Vienna

February 2, XXIV, No. 5, pp. 153-190

110 *Changes in the Pancreas in Diabetes Mellitus. A. Weichselbaum.
111 Behavior of Albuminuria and Tube-Casts in Urine During a Course of Mineral Waters at Marienbad. K. Zörkendörfer.
112 Leg Phenomenon in Hysteria. (Ein dem "Beinphänomen" der echten Tetanie in seinem klinischen Aussehen gleichendes, vielleicht richtiger als "Pseudo-Beinphänomen" zu bezeichnendes Symptom in einem Falle von Pseudo-tetania hysterica.) W. Buettner.
113 Globulins in Syphilitic Serums. (Vergleichende Globulinmessungen an luetischen Seris.) R. Müller and W. Hough.
114 Metaplasia of Gastric Epithelium. A. Hermann.

110. **The Pancreas in Diabetes.**—Weichselbaum found the islands of Langerhans strikingly pathologic in the 183 cadavers of diabetics he has had opportunity to examine, while no changes of the kind in the islands could be detected in the seventy-three cases of chronic tuberculosis he examined post mortem. He states further that his findings demonstrate that it is not any special changes in the islands but the extent of involvement which determines the development of diabetes. In some non-diabetics the parenchyma was found atrophied while the islands were not much degenerated; in a few cases the pancreas weighed less than 35 gm. or even 20 gm. but the islands had maintained their integrity; although the urine had been examined repeatedly for sugar during life the findings were constantly negative. The type of the diabetes corresponds to the different forms of the changes in the islands, the graver forms accompanying complicating arteriosclerotic changes in the islands. The practical conclusion is that everything that tends to favor arteriosclerosis should be carefully avoided when diabetes is feared or is established. Chronic alcoholism is a factor of this kind; it seems to be able to induce not only cirrhosis of the liver but a chronic interstitial pancreatitis which may lead to sclerosis of the islands.

Zentralblatt für Chirurgie, Leipsic

February 4, XXXVIII, No. 5, pp. 153-184

115 *Opening New Collateral Blood and Lymph Routes. (Eröffnung neuer Abfuhrwege bei Stauung in Bauch und unteren Extremitäten.) O. Lanz.
116 *Urethral Injection of Glycerin to Facilitate Passage of Sounds. (Perurethrale Glyzerin-Druckinjektion zwecks leichteren Entrierens sog. impermeabler Strikturen.) T. Goldenberg.
117 *Improved Technic for Nephropexy. Liek.

115. **Operative Opening of New Collateral Circulation.**—Lanz has applied the Talma operation in four cases of ascites from cirrhosis of the liver, with complete success in two cases and absolute failure in the others. In a more recent case the patient was a man of 69 with enormous ascites and suspected cirrhosis of the liver and alcoholism. The absence of enlarged veins in the abdominal wall and the age of the patient suggested carcinomatous peritonitis. In order to divert the fluid into a new route, after removal of 12 or 15 liters of fluid, Lanz drew the right testicle upward out of the scrotum by pulling on the spermatic cord, and implanted it in the open abdominal cavity, suturing the spermatic cord its entire length around the peritoneal incision. The discovery of tuberculous nodules in the peritoneum had left little hope of permanent recovery and the patient died five weeks later. There had been no recurrence of the ascites but the spermatic cord and the retroperitoneal tissue were found gorged with serous infiltration, everything showing that the operation had provided a collateral circulation for the lymph with direct drainage of the peritoneal cavity along the spermatic cord with its wealth of lymphatics. The outcome might have been still better if the testicle had been wrapped in omentum. The findings at necropsy corroborated the advantages of this method of internal drainage; the results are more promising, Lanz declares, than when the omentum is merely fastened—as by the Talma operation—to the abdominal wall which is not so rich in lymphatics.

116. **Glycerin for Impermeable Urethral Stricture.**—Goldenberg injects about 20 c.c. of glycerin under considerable pressure and at once the catheter finds its way through the previously impermeable stricture. The glycerin has the further advantage of being completely soluble in water, thus obviating all danger of embolism.

117. **Nephropexy.**—Liek used the capsule of the kidney to fasten it in its proper place in a case reported, drawing the slit capsule up around the lower pole of the kidney and fastening it to the twelfth rib. The technic is illustrated.

Zentralblatt für Gynäkologie, Leipsic

February 4, XXXV, No. 5, pp. 177-224

118 *Technic of Pubiotomy. R. Costa.
119 Operative Sensibility of Female Genitalia. (Sensibilität der weiblichen Geschlechtsteile.) J. v. Mann.
120 Treatment of Placenta Prævia in the Home. (Zur Behandlung der Placenta praevia in der Aussenpraxis und zur extraovulären Einführung des Metreurynters.) J. Füth.
121 Perforation of Intestine During Curettage of Uterus. K. Justi.

118. **Technic of Pubiotomy.**—Costa gives an illustrated description of an improved method of pubiotomy which ensures preventive hemostasis of the vessels under the pubis. In carrying out the operation as described on ten cadavers, the bladder had been filled with a blue stain; no trace of injury of this organ could be detected.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 26, XXXII, No. 12, pp. 123-130

122 Acidity of Urine Not Constant in Tuberculosis. Barabaschi.

January 29, No. 13, pp. 131-146

123 Internal Hypersecretion. (Il concetto clinico dell'ipersecrezione interna.) G. A. Pari.

Riforma Medica, Naples

January 16, XXVII, No. 3, pp. 57-84

124 *Inherited Hemorrhagic Telangiectasia. W. Osler.
125 *Exploratory Puncture of Bone Marrow. G. Ghedini.
126 Isolytic and Heterolytic Power of Organic Fluids. E. Cedrangolo.

January 23, No. 4, pp. 85-112

127 Pathogenesis of Infectious Purpura Hemorrhagica. S. Cannata.

124. **Inherited Hemorrhagic Telangiectasia.**—Osler reports a fifth case of this anomaly, his other four having been published at various times since 1901. Others have reported similar cases since so that he now knows of fourteen or fifteen families in which two or more members through from two to five generations had these multiple telangiectasias of the skin and mucous membranes, bleeding frequently and leading in some cases to repeated and almost fatal epistaxis. The only etiologic factor of any account seems to be the heredity. One of his patients had had repeated epistaxis for over forty years; another had frequent hemorrhages from a vascular nevus on the hand and another on the arm. Probably in many of the cases the anomaly has been regarded as a manifestation of hemophilia, but this is incorrect, he thinks. The trouble is a dilatation of the capillaries and smaller veins and much can be done in treatment by cauterization. In his last case he warded off danger by destroying the dilated vessels in the nose and on the tongue by cauterization. The patient was a woman of 35 and the lesions had notably increased in number and size during the last six years. Coe has reported benefit from administration of calcium lactate in such cases, and Osler suggests that if the angiomas are large it might be wise to apply radium treatment.

125. **Exploratory Puncture of Bone Marrow.**—Ghedini here reports the experiences on which he based his conclusions recently summarized in these columns, February 4, page 389. Application of the measure in twenty-four cases has demonstrated, he remarks, the ease and simplicity of the technic and its harmlessness.

Hospitalstidende, Copenhagen

February 1, LIV, No. 5, pp. 105-136

128 *Multiple Punctures in Treatment of Cystic Disease of the Kidney. (Behandling af det multilokulære Nyrekystom med multiple Punkturer.) T. Rovsing.
129 Inherited Predisposition to Pulmonary Tuberculosis. (Arvelighed af Disposition til Lungetuberkulose.) N. J. Strandgaard. Commenced in No. 4.

128. **Multiple Puncture in Cystic Disease of the Kidney.**—Rovsing had a patient, a man of 41, who had been healthy until about a year before when violent pains in the left kidney region came on suddenly and the attacks returned from time to time, with occasionally mild pains in the right side. There was considerable albuminuria and the left kidney was found much enlarged. On the diagnosis of tumor of the kidney. Rovsing exposed the left kidney and found it studded with cysts. Nephrectomy was contra-indicated as cystic disease is generally bilateral, and the urine from the other kidney was not normal. He at once punctured the superficial cysts and then the deeper and deepest ones. There was scarcely any bleeding and after the puncture the kidney subsided to less than half its former size. He left a wick in the wound and the diuresis increased while the albuminuria disappeared. The patient was freed entirely from pain and regained full earning capacity, dying three years later from uremia following an acute febrile disease. Rovsing had been very dubious in regard to the outcome, for, if the "retention cyst" theory of cystic disease of the kidney is correct, the multiple puncture holes would have drained away the urine and infiltration and a fistula would have been the result. On the other hand, if the disease were in the nature of a new growth, there was danger that the tumor mass would proliferate into the adjoining tissue. Nothing of the kind occurred; the wound healed rapidly and there was no question but that the operation was not only palliative but improved the kidney functioning; there must have been considerable sound kidney tissue which was able to resume functioning when released from compression by the cysts. Encouraged by this success he applied the same measure in two other cases later, with equal benefit, as he relates in detail.

Norsk Magazin for Lægevidenskaben, Christiania

February, LXXII, No. 2, pp. 105-224

130 Clinical Experiences with Thiosinamin and Fibrolysin. H. L. C. Huitfeldt.
131 Fibrolysin in Chronic Adhesive Peritonitis. N. B. Koppang.
132 Cli[illegible] lvarsan. K. Grøn.
133 *Bi[illegible] m and Its Clinical Significance. [illegible] og dens kliniske betydning.) O. Scheel.
134 Improved Cuff for Dosage of Constriction Hyperemia and Blood-Pressure. (Professor Perthes' apparater.) E. L. Lindboe.

133. **Clinical Importance of Bile Pigment in the Blood Serum.**—Scheel reports his experiences with tests applied to detect the presence of bile pigment in the blood in health and in various diseases. An instructive diagram shows at a glance the findings in the urine with the Gmelin test in these different conditions and the proportion of bile pigment in the blood serum as determined by the Gilbert reaction, the original test slightly simplified. The reaction was naturally most pronounced in jaundice, next in pernicious anemia and pyemia while failing compensation with a heart defect came next. Chronic nephritis without stasis was within normal range; with stasis there was a slight positive reaction.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

THE NINTH YEAR-BOOK OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION. Part II, The Nurse in Education. *By Thomas D. Wood*, A.M., M.D., Professor of Physical Education, Teachers College and Columbia University; M. Adelaide Nutting, Professor of Nursing and Health, and of Household Administration, Teachers College, New York City; Isabel M. Stewart, Instructor in Nursing and Health, Teachers College, New York City, and Mary L. Read, B.S. Supplement to the Year-Book on "Health and Education" Discussed at the Indianapolis Meeting of the National Society, Feb. 28, 1910. Paper. Price, 78 cents. Pp. 76. The University of Chicago Press, Chicago.

INEBRIETY. A Clinical Treatise on the Et[illegible], Neurosis, Psychosis and Treatment and the [illegible] By T. D. Crothers, M.D., Superintendent [illegible] Hartford, Conn. Cloth. Price, $3. Pp. 36[illegible] Publishing Co., 1911.

TWENTY-SIXTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND. For the Year Ending Dec. 31, 1903, and Including the Report on the Registration of Births, Marriages and Deaths in 1902. Cloth. Pp. 300. Gardner T. Swarts, M.D., Secretary, 70 Waterman Street, Providence, R. I.

A MANUAL OF PHYSICAL DIAGNOSIS. By Brefney Rolph O'Reilly, M.D., C.M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto. Cloth. Price, $2 net. Pp. 369, with 49 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

NINETY-SEVENTH ANNUAL REPORT OF THE TRUSTEES OF THE MASSACHUSETTS GENERAL HOSPITAL. Including the General Hospital in Boston, the McLean Hospital and the Convalescent Hospital in Waverley. 1910. Paper. Pp. 294, with illustrations.

REPORTS OF THE TRUSTEES AND SUPERINTENDENT OF THE BUTLER HOSPITAL. Presented to the Corporation at its Sixty-Seventh Annual Meeting, Jan. 25, 1911, Providence, R. I. Paper. Pp. 55. G. Alder Blumer, M.D., L.R.C.P., Superintendent.

FORTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Public Document No. 34. Cloth. Pp. 917. Mark W. Richardson, M.D., 145 State House, Boston, Secretary. 1909.

THE JOHNS HOPKINS HOSPITAL REPORTS. Volume XVI. Paper. Pp. 670, with 151 illustrations. Baltimore: The Johns Hopkins Press, 1911.

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THE INTERPRETATION OF PAIN AND THE DYSESTHESIAS

CHARLES L. DANA, M.D., LL.D.
Professor of Nervous Diseases, Cornell University Medical College
NEW YORK

In one of Horace's Epistles, he speaks of an *ægrimonia fastidiosa,* an expression which indicates an illness characterized by certain niceties of suffering, and not by the common and every-day variety of pain.

It is to this field of what may be called fastidious, though not unreal, distress that I invite some attention now; and my excuse is, that I believe it greatly deserves and will amply repay serious study and patient attention. For the time has come for the physician to study the subjective side of his patient more carefully, and the psychology of suffering in general, so that he can learn and interpret the patient's state of mind, as thoroughly as he does that of the body.

The research into human ailments by present methods has nearly reached its limit so far as clinical study goes. It must be continued in the laboratories, and from the methods of the laboratory we may yet expect our richest finds. A field most fertile for the neurologist now is that of studying the mental make-up of his patient, his habits of thought and feeling, the quality of his reactions and the mold in which education and environment have shaped his character. Then we begin to understand what he means by his complaints. The elements of psychology, when properly taught, do not form a difficult subject, or one which medical students cannot easily master. I can heartily second the advice recently given by President Schurman of Cornell, that this branch be taught to the medical student as an obligatory part of his course. So far, it is only the psychiatrists who have seriously taken up and applied psychology to medicine; but by doing so they have given to that branch the enormous impulse which it has received during the last decade. Neurology will fall behind if it does not make use of the same instrument.

THE DOCTRINE OF PARALLELISM

Let me now apply this preaching and come to the subject in hand. Psychology has shown that all mental activities are accompanied by neural activities, and that there is such a thorough-going parallelism between the two that when the mental state is disordered the accompanying neural activity must be also disordered. As Mr. Marshall puts it, "All neurotic activity is but an emphasis of a corresponding neururgic activity."[1]

We cannot imagine for example, a hallucination (which is an abnormal mental state) to be the production or the parallel of a perfectly normal neural state, or that there can be a perfectly normal neural activity of any kind running parallel with a morbid mental activity.

We cannot, as psychologists, imagine an agonizing pain disturbing our consciousness, without supposing *that there is an abnormal neural state associated with* it. Thus it must be that all pains and all suffering are real things. There is no such thing, strictly speaking, as an imaginary pain; that is, a pain which has no morbid neural condition underlying it. There is, furthermore, no such thing as a purely mental disease, for all disturbances of the mind are associated with some abnormal neural change. I assert, therefore, that whenever a person believes that he is suffering, he really is suffering. There are no functional psychoses and no functional neuroses. I emphasize this point, because *it is so easy and so common a thing* for physicians to dismiss a certain class of patients by saying: "There is nothing the matter with you; forget it and you will be well." The view of human suffering which I take is directly the opposite of that of the late esteemed Mrs. Eddy, but I must bear the obloquy. The surgical method of treating hysteria is to say: "You are a damned fool; go and behave yourself." Sometimes this form of therapeutic procedure answers, but it is not because the statement is strictly true that it succeeds. The fact that there is a system of therapeutics, based on the view that pain or morbidly unpleasant sensations do not exist, is not a proof of its veracity, even though the theory may often answer well. Pains *do disappear when the attention is directed elsewhere,* and the threshold of consciousness is raised so that the disagreeable sensations are excluded; but there was all the same an abnormal condition, cured by opposing to it a mental state; just as by changing the gait, certain strains are removed and ease of walking returns.

This paper is an attempt to study pains and dysesthesias and to show what they mean and how serious they are. I shall say little about the ordinary pains due to lesions of the peripheral and spinal sensory tracts; the facts here do not need much further interpretation.

SENSORY TRACT PAINS

We have a rather different kind of pain according to the seat of the irritation in the sensory nerve-tract.

1. For example, lesions of the cutaneous terminals of sensory nerves, such as occur in diabetic neuritis and certain forms of toxic and arteriosclerotic neuritis, cause symptoms more of the nature of paresthesias, burning sensations and soreness, than of actual pain.

2. Lesions of the muscular and visceral sensory terminals cause colicky, anginal and cramping pains.

3. On the other hand, lesions of the nerve-trunks themselves, as in alcoholic or rheumatic neuritis, cause a distinct aching and throbbing kind of pain, with occa-

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[1] Marshall, Henry Rutgers: Consciousness, Macmillan Co., 1910

sional shooting pain running more or less along the nerves, with the complicating feelings of heaviness, weakness and some minor paresthesias.

4. Lesions of the posterior ganglia and sensory roots cause sharp, shooting pains more particularly, together with vasomotor disturbances.

5. Lesions of the sensory tracts of the cord and brain, (aside from the thalamus) rarely cause pain; more often only numbness and other paresthesias, such as cold and hot sensations.

6. Lesions of the thalamus cause burning, smarting pains.

7. Lesions of the sensory cortex of the brain cause no pain.

Of course the character of pain depends much on the nature, intensity and duration of the stimulus, but the general facts are about as I have stated.

Now, in clinical examinations, it is usually quite easy to interpret the description of the pains complained of and to determine that they are caused by some irritation of a nerve terminal as in diabetic neuritis, or of the trunk, as in brachial neuritis, or of a posterior ganglion and root, as in tabes and tumors of the cord.

PSYCHIC AND ATTENTION PAINS

But there is another group of sensory complaints. For ten or fifteen years, it has been my custom when a patient was particularly eloquent and emphatic in the description of various painful symptoms, to write down the characteristics on a slip of paper, add to it the name, age and diagnosis and file away the semeiologic note. I have collected these multitudinous scraps of sensorial description and have tried to associate them with some definite group of nervous or mental ailments. I have not been able entirely to clear up the mystery of bizarre complaints by this plan, but I have got thus far, namely, that now when certain groups of sensory symptoms are told me, I can often infer at once that the patient has one or another form of a psychoneurosis, or has some degree of arteriosclerosis, or of toxic or neuritic irritation.

There are two tendencies among those studying the psychoneuroses just now. One is to group what we may call the minor psychoses into three or four classes; and to put our patients into Class A, B, C, or D, and then treat each as we would the similar patients of this class. Other psychoneurologists advocate the individual treatment of patients, and deny the importance of making any very definite diagnosis. Each individual and disease-condition, they say, should be treated by himself and itself. The past history is unfolded to the last detail, the present state is analyzed and the disordered associations are then treated and educated into right channels again.

The true method lies probably in the golden mean, but my habit and practice, I confess, go more with the first group. It seems to me that there are three or four broad general lines in which chronic forms of psychoneuroses shape themselves, and that nearly all cases can, with proper caution, be merged into one or other of these groups.

There is, for example, a certain condition which is known as neurasthenia, in which the cerebral and spinal centers are weak and irritable and easily exhausted and tired. In these cases, there is sometimes no important psychic defect.

There is another group which has received the name of psychasthenia, in which there is always present some psychic defect. The dominant and important symptoms are mental, and the patient has fears and doubts, tormenting ideas, depression and panics. Belonging to this group are those persons also who are subject to hysterical crises and to the impulsions and explosions characteristic of the inebriate.

There are, again, forms of mild depression which usually in early life are not accompanied with any nervous or physical symptoms, but in later life are very closely associated with physical symptoms. These depressions are for practical purposes called the manic depressive type and involution type of melancholia.

Finally, there is a condition of constitutional inferiority in which the individual has always an undue sensitiveness to irritation.

In looking over my Pandora's box of woe, I find that a rather distinct kind of pain and dysesthesia goes more or less with each of these groups.

THE PAINS OF THE OBSESSIVES

In interpreting the tales of suffering and pains which are unfolded to us, by persons who have no grave organic disease, one has to note carefully the attitude of mind of the patient towards his own suffering. In a certain class of patients, the pains are described with enthusiasm and intensity of feeling—with, indeed, a sort of joyful emphasis—the sufferers using a most rich vocabulary of superlatives as they point out their woes. The patient, with a smile, says that she is suffering untold and infinite agony from a pain which has not left her arm or head or back for six months. Another, with a certain expression of satisfaction, says that she has had a headache for fourteen years, always very severe. Another describes in a tumultuous flow of words a succession of curious and unpleasant sensations for which we have no definite names in our clinical symptomatology.

These patients, who with a healthy look and a somewhat earnest and satisfied way describe their sufferings, always belong in general to the class of obsessives or psychasthenics. Their pains are generally pretty definite. It is always a neuralgia of the arm or a pain over the kidney or the liver, or a steady pain in the back or on the side of the head.

The symptoms are those which involve especially the epicritic nerves; in other words, they are clear-cut, severe pains, or definitely outlined and located feelings of heat, cold, or tactile dysesthesias.

The localization of these pains is usually in some spot that does not correspond with the course of a nerve or with any nerve plexus. They are in the shoulder, or a joint, or the side of the head or back. Very often they lie in or over the abdominal viscera, and include neuralgias or paresthesias of the rectum, stomach, intestines or uterus. As a rule, these pains have no doubt been originally started by some definite sensory irritation, such as an injury or a disturbance of visceral function, or a strain put on the eyes or brain. In the obsessive patients, there is usually also an undercurrent of neurasthenia, and their pains, brought on at first by exhaustion and toxic conditions, are emphasized and glorified by the psychasthenic condition.[2]

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[2] Psychasthenic and Neurasthenic Pains.—The following are from notes of cases: a favorite sore spot on the side of the head; a tremulous jelly-like feeling in the back; a pain in the ovary, when excited; a painful globus; a localized paresthesia over the supraclavicular and infraclavicular region, lasting several years; a dysesthesia fixed definitely in the knees, elbows and epigastrium; fixed pains in side of head, in side of chest, in arm, fingers, ovaries; pressure, soreness and heat of occiput, tightness around jaw or neck; helmet sensation, sensation of the head being a vacuum; of the body being too short or too long; sensations of nervousness, tensic [illegible] ty, restlessness, inside trembling, sinkii [illegible] int, or die; sensations of unsteadiness, [illegible] eme painful sensory reaction to certain [illegible], developing pains, nausea, faintness, vertigo, etc.

The pains of the obsessives are such as can be argued with. They will admit that they should not have these pains, that perhaps they are imaginary, though they do not really believe it; they will often try conscientiously to forget them. And by suggestion, by earnest explanation, by various therapeutic incantations or by long and patient reeducation, often excellent results are produced.

A healthy woman about 40 years of age was met one day by her son, who had returned after a long absence and who grasped and squeezed her hand with an extra degree of filial earnestness, so that he practically crushed some few peripheral nerve filaments of the hand and caused her great pain. This lasted throughout the day; the next day, instead of subsiding, it increased. The hand was bandaged and kept at rest, but the pain still continued, and after some weeks was so severe that it was determined there was a neuritis. This neuritis, it was supposed, ascended, so that in the course of the next nine months, the several nerves of the arm were cut, three different operations being done on it, all without relief, and with the result of still greater suffering. At the end of the nine months I examined the hand and found nothing objectively wrong, except what had been done by the surgeons. On my telling her to let her hand alone and go about her work, the pain in the course of a few weeks subsided, and she recovered the use of her hand.

In this case, the pains from which the woman had suffered for nearly a year were not due to any irritation of importance in the sensory tracts. The pain was central and would ordinarily be called "imaginary" or hallucinatory.

The psychology of it is not so simple. It means that there was a disorder of attention and a lowering of the threshold of consciousness; all the time there was some real neural irritation which occupied and morbidly enlarged the field of attention. It is not necessary to invoke hysteria or necessarily the subconsciousness or the memory of the painful squeeze tucked away in the optic thalamus. The term "attention-pains" offers a sufficient psychology to begin with. With these pains is usually an egotistic and anxious feeling, and these factors furnish the indications for treatment.

A patient of mine, now a man of 60, has for fifteen years been going around on crutches because he has so much pain in the knees. These knee-pains are always present slightly, but are greatly increased by walking, or by any serious vibration; so that he cannot use a motor car or carriage, and he travels, whenever it is possible, by boat. This patient is an educated and intelligent man, without any observable psychosis or stigma of hysteria, so called. The most elaborate methods of physical and clinical exploration have failed to discover anything wrong with his knees. He intelligently appreciates the explanation that his trouble is purely an idea and tries to follow the suggestion based on this line, without avail. For he gave up business and devoted his attention to his knees. Naturally he has attention-pains.

A woman aged 40, of good general health, came to me complaining of pain over the region of the liver, which she had had for nearly three years continuously. It was a kind of pain which would be associated with some disturbance of the gall-bladder. She had been examined in every possible way by the best experts, who all reached the conclusion that it was, as they termed it, "nervous." She had nothing to gain by having the pain, and seemed earnestly to try to raise herself above it. She and a devoted husband worked together daily over the pain, but it continued obstinately despite every kind of cure, until the time when I saw her. It then gradually disappeared under a course of educational therapeutics which was given to her. Her pain began from an acute local disturbance. It kept up through her attentions to it.

These examples illustrate some of the types of attention-pains which often baffle us.

The use of the word "hysterical," much used in this connection, conveys a very vague explanation to serious minds, and arouses generally indignant protest from the patients, who know perfectly well that the pains are not hysterical, or as they interpret it, "imaginary." And in fact the worst and crudest method of interpreting them is to say with finality that they are imaginary or hysterical. I will admit, however, that just as fetich-worship suits the savage, so the theory of a hysteria or the philosophy of mental science may sometimes answer for the ignorant.

NEURASTHENIC PAINS

There is such a condition as neurasthenia or nervous exhaustion, but it quite rarely exists by itself. It has certain painful symptoms connected with it which are real and due, it is to be supposed, to tired nerves, which means often persisting autotoxemia. The pains of the neurasthenics and of the constitutionally inferior are mainly headaches, occipital and frontal, and are associated with sensations of pressure and constriction or fulness and discomfort about the head. Pains along the back, such as occur in spinal irritation, are largely due to the condition of the muscle mass which supports the spine. There are also direct and reflex symptoms that come from tired hearts and stomachs and lazy intestines. These pains are described in a rational way, as a rule, and are usually recognized by the fact that they are increased by exertion, and lessened by rest.

The pains of neurasthenia, however, are apt to become associated with the attention pains, and an obsessive state sometimes develops on a neurasthenia.

DEPRESSION PAINS

The attitude of the morbidly depressed patient, who has pains, and especially of those who have that form of depression associated with anxiety, a malady allied closely to the melancholia of involution, is quite different, and the description of pains and suffering is given in more serious style. The patient says with shut jaw and serious look that he has not ceased to have pains in his knees for fifteen years; he has not slept for weeks; he has sensations of prickling, boiling, bursting, coldness and heat along the spine and knees which annoy him to a point beyond endurance. He says this with a weary, anxious look; the tears come to his eyes. His pains are more than real; they are frightening and agonizing.

No amount of reasoning has much effect on these patients, except for an hour or for the moment, for these sufferings are deep-seated and a part of their conscious life. They show you their hands, which seem to them hot or badly nourished and ask you to feel of them; they want you to examine the disturbed area and feel or see that there is something wrong in the tingling forearms, the drawing sensations about the knees, or the pulling sensations about the neck.

These are the patients who have the most curious and bizarre kinds of sensory complexes. One will tell you that he feels as though his legs were bursting, or as though his body was stuffed with pricking burrs. He has sensations about the head, not merely of pressure and constriction, but of some substance under the skin which is twisting or jumping or crawling. He has curious visceral pains, such as "boiling in the stomach" and feelings of heat deeply seated within the trunk, or within the limbs. He has sensations of coldness as though there was a piece of ice on the back, or of heat like a band over the chest, or of prickling irritation over the shoulders or in the knees.[3]

The general character of these sensations would make one think that in the dysesthesias of melancholia, the protopathic nerves are especially affected, while in psychasthenic pains, it seems to be more the epicritic nerves—sensations of a finer quality and more definite character.

When the patient comes to the physician's office, and begins to say that he has hot and annoying sensations in the knees and burning irritation along the back, disagreeable and rather indefinite disturbances of sensation about the hands and feet; when he begins to show you his limbs and point out the places where he suffers, one can infer at once that he is dealing with a person who has a hypochondriacal depression.[4]

By carefully recording the descriptions of symptoms given by patients, one can after a few interviews construct a sensory syndrome. If this is once done and attached to the history, it saves much trouble, time and repetition. Besides, when the patient knows you have all his troubles typewritten, he ceases to talk so much about them, and it does him good, for he knows that he has had a complete mental catharsis.

If one were to interpret these sensations psychologically according to the scheme which is presented below, I should say that in the psychasthenic pains there has ceased to be any peripheral irritation. The neuritis is gone; the nerve injury is healed, and the only neural disturbance is a morbid change in some primary sensory center, like the optic thalamus, where sensory impressions are first received and distributed. In other words, there is slight or no disorder of the sensory nerves, but there is some disassociation and disorganization in the work of the higher sensory mechanism. But beyond this there has occurred disorder of attention; the patient's mind has become so fixed on this slight neural change that the threshold of consciousness is greatly lowered; and even slight neural disturbance keeps up an agonizing suffering. I would still insist that there is a neural change, and that the pains are not imaginary, but the neural disturbance is always a minimum, while the focusing of attention on it is at a very morbid height. This may be shown in the diagram (Fig. 1 at A). It means, of course, that in these cases the therapeutic attempt should be directed toward turning away the field of thought to other channels and reestablishing the proper associations.

On the other hand, in the pains and dysesthesias that go with the anxious depressions, there is probably present a real morbid condition affecting perhaps especially the protopathic nerves. These usually do not arouse sensations in consciousness, but through conditions of autotoxemia, arteriosclerosis and the rheumatic and bad metabolic conditions, that usually accompany the period of involution, these nerves are irritated.

In addition to this the mind of the patient is depressed by his psychosis and made more sensitive and attentive to the inflow of sensory impulses. There is then both an increase in the stimulus and a lowering of the threshold of consciousness. These pains of the anxious depressives have a certain physical basis in the badly nourished and irritable nerves, and the alertness of self-attention which exists in anxious minds.

So we find that, in these cases, there is not much to be accomplished by attempting to divert the attention of the patients by therapeutic talks. They are relieved most by measures which improve the bodily condition—by rest, diet, fresh air and eliminatives.[5]

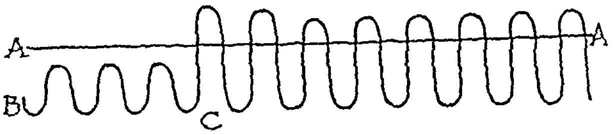

Fig. 1.—Diagram illustrating the conditions when a painful stimulus continues causing constant real pain. A, threshold of consciousness; B, waves of sensory stimuli; C, waves of abnormal and painful stimuli rising into consciousness.

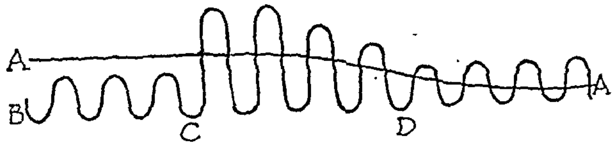

Fig. 2.—Diagram illustrating habit or attention pains. A, threshold of consciousness; B, waves of normal sensory stimuli; C, waves of abnormal sensory stimuli from trauma, inflammation, etc. At D the sensory stimuli have dropped to normal, but the threshold of consciousness has been lowered so that ordinary stimuli are felt as painful.

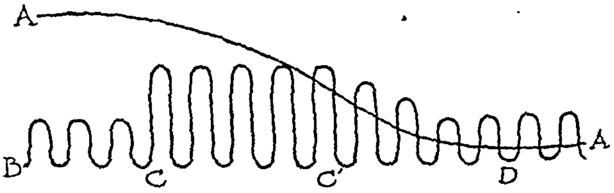

Fig. 3.—Diagram illustrating post-traumatic pains. A, B, and C, as in other diagrams. At C^1 the painful stimuli begin to cease, but the attention keeps the threshold of consciousness abnormally low and pain continues to be felt.

THE PSYCHOLOGY OF FUNCTIONAL PAINS

The accompanying diagrams and parts of the description have been prepared for me through the courtesy of Mr. Marshall.

The word "consciousness" is used in two ways: First, as an equivalent of *psychic existence as such*, as when we question whether the plants have consciousness, or say that stones have no consciousness; second, as the equivalent of *awareness*, which is a narrow phase of psychic existence as such. Thus, when one forgets, one is likely to say that he is not conscious that he did so and so.

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[3] Depression Pains.—The following are actual descriptions given by different patients: feeling as if a piece of ice was between the shoulders with paresthesia and stiffness of neck; cold sensation in small of back as if it had shrunk up; burning *pain on top of head*; burning pain in the back; sensations of coldness of certain parts of the body; sense of heat and fever over chest and neck and head; sensations of burning, smarting like bee-stings over head, arms and back; sensations of body being filled and stuffed with pricking burrs; a feeling as if fine needles were sticking out of the scalp, or as if something were working and wriggling under the scalp; a feeling as if a ton-weight were pressing on the top of the head; hot hands and feet; dysesthesias of legs, arms and epigastrium; pricking over sides of chest and top of head, which becomes actual pain when worried.

[4] The custom of internists is to ascribe them to arteriosclerosis, a custom not founded on sound data.

[5] There has been a great deal said and written about the pains and dysesthesias of arteriosclerosis and of the gouty and arthritic states. Many symptoms, such as cold sensations, heat sensations, numbness and paresthesias of the hands and feet, are due in part at least to those causes. The burning feet and hand in diabetes and peripheral neuritis must be recognized, the dysesthesias (very rare) in central lesions, must be considered. But in these there is lacking the peculiar mental state. As for arterial sclerosis, one sees it repeatedly in the most intense degrees without the patient complaining of those sensory syndromes which go with neurasthenic, obsessive and depression states; hence, I do not accept the explanation commonly given of arteriosclerosis as a cause of the many pains and dysesthesias complained of by people who really have such vascular condition; the psychic factor is the important and real one.

The term "threshold of consciousness" is in common use. It indicates that there is a something below this so-called threshold. What we really mean is that we have a threshold of awareness within our psychic existence. All that is within the consciousness of any moment and that is below the threshold of awareness is part of what Marshall calls subattentive consciousness, and is what is generally called the subconscious. There are many different thresholds of awareness, and these thresholds shift sometimes suddenly. Such a shifting takes place when we wake up. If we represent the threshold of consciousness in any moment by an approximately straight line, then we may represent special mental items by waves as in Figure 1; the rise of each wave above the level of the threshold indicating the degree of its emphasis.

We suppose now, in Figure 2, the normal waves of stimuli are abnormally increased at C by some injury or inflammation. The waves of stimuli pass up above the threshold of consciousness and pain is felt. After a time the injury is healed and only normal sensory stimuli are propagated, but, the attention of the patient being directed to these stimuli, the threshold of consciousness is lowered and the pain is still felt. We have now the psychic, or attention or habit pains.

Figure 3 illustrates a somewhat similar condition. In the heat of battle or excitement of accident, the threshold of consciousness is greatly raised, *quoad* the sensory stimuli from an injured part. No pain is felt until later, when quieter and more normal conditions are brought about. Then at C^1 the real pains begin to be felt. They excite the attention of the patient and the threshold of consciousness is lowered at D and pains continue to be felt even when the injured part is healed. These are the pains of the traumatic psychoses.

SUMMARY

A more careful study should be made of the psychology of patients who complain of chronic pains and dysesthesias not due to objective causes. The study of elementary psychology in the medical schools should be obligatory. Clinical neurology will not make much further progress without psychology.

I have collected and analyzed the symptoms of pains and dysesthesias not directly due to organic disease, and have here tried to group them according to the neurosis or psychosis.

1. I find a certain kind of pains characteristic of simple neurasthenia.
2. Also pains, etc., of psychasthenia and the obsessives are peculiar to that psychosis. These perhaps involve especially the epicritic nerves. The mental attitude and reactions of the patient have to be considered. The pains of the traumatic psychoses mostly belong in this class.
3. The pains of the anxious and involutional depressions are especially numerous, bizarre and characteristic. They form for each patient a sensory-complex, and they seem especially to involve the protopathic nerves.

I interpret the symptoms of pains, etc., in terms of the psychology of Marshall. These are not imaginary pains, because there is a thoroughgoing parallelism between mind and body and there can be no morbid mental change without a corresponding neural change. Psychic pains are called "attention-pains," and the overemphasis in activity of minor psychic symptoms is invoked to explain their existence. There is not yet any simple test by which we can tell surely when a pain is not a real, but an attention or habit pain. A thorough study of the psyche and soma of each patient and a knowledge of the characteristic pains in the various groups will clear up most cases.

53 West Fifty-Third Street.

MIGRATION BY AMEBOID MOVEMENT OF SARCOMA CELLS GROWING IN VITRO

AND ITS BEARING ON THE PROBLEM OF THE SPREAD OF MALIGNANT GROWTHS IN THE BODY[*]

R. A. LAMBERT, M.D., AND FREDERIC M. HANES, M.D.
NEW YORK

It is the object of this note to describe certain ameboid phenomena observed in the cells of rat and mouse sarcomas when cultivated *in vitro*, and to suggest that these phenomena probably play an important part in the infiltrative and metastatic growth of tumors.

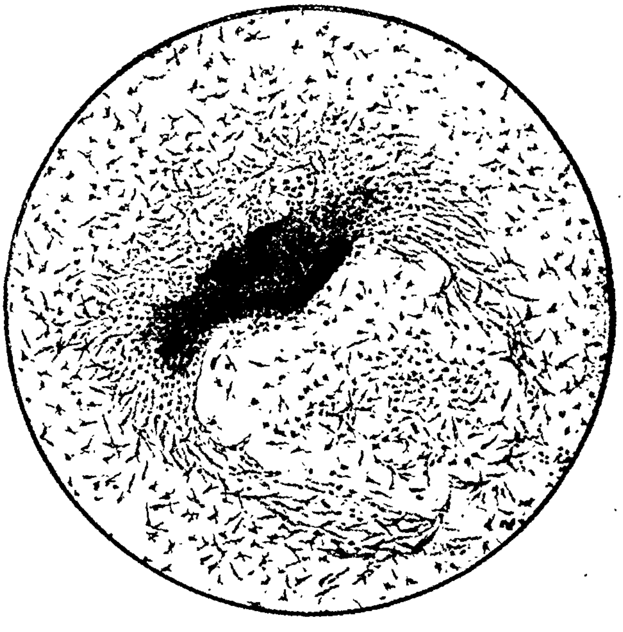

Fig. 1.—The edges of the sarcomatous tissue are beset with long, projecting sarcoma cells, and the adjacent plasma contains many isolated cells with remarkably irregular outlines.

We have employed in this study Burrows'[1] modification of Harrison's[2] technic, as applied by us[3] to rats and mice.

Since rat and mouse sarcomas do not differ essentially from one another in their behavior when cultivated *in vitro*, we shall confine our description, for the sake of clearness, to the various changes observed in the cells of a mouse sarcoma growing in mouse plasma. The edges of a freshly implanted piece of tissue, examined under the microscope, are sharply defined and free from projecting cells. The tissue itself looks compact and homogeneous. Twelve hours later the edges of the tissue are beset with long, projecting cells, and the adjacent plasma contains many isolated cells with remarkably irregular outlines (Fig. 1). The original piece of tissue is no longer uniformly dense and compact, but has become thinner and more translucent. The number of cells in the surrounding plasma increases now, from *hour to hour,* largely at the expense of the original tissue, which gradually grows thinner, until at from thirty-six to forty-eight hours, its volume has decreased to one-half or one-third its initial size. Indeed, the original mass of tissue may become resolved completely into its component cells, which pass into the plasma. Mitoses are seen, both in the original piece of tissue, and in the cells which have migrated from it.

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[*] From the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York City (the George Crocker Special Research Fund).

1. Burrows, M. T.: The Cultivation of the Tissues of the Chick-Embryo Outside the Body, THE JOURNAL A. M. A., Dec. 10, 1910, p. 2057.

2. Harrison, R. G.: The Outgrowth of the Nerve Fiber as a Mode of Protoplasmic Movement, Jour. Exper. Zool., 1910, ix, 787.

3. Lambert and Hanes: Growth in Vitro of the Transplantable Sarcomas of Rats and Mice, THE JOURNAL A. M. A., Jan. 7, 1911, p 33.

The exact mechanism of this migration of sarcoma cells is observable with ease under the higher powers of the microscope. They pass from the tissue to the plasma by ameboid movement. Pseudopods are thrown out on all sides, and these increase or decrease in size in characteristic ameboid fashion (Fig. 2). The ameba itself scarcely furnishes more exquisite figures than do sarcoma cells. There is one difference however; the movements of amebas are much more rapid and active. This may be due to the rather firm consistency of the coagulated plasma in which the sarcoma cells are living. Fat granules appear very early, and it is quite interesting to watch them stream into a newly formed pseudopod. One is reminded forcefully of the movements of erythrocytes and other inclusions in the cytoplasm of the *Entamœba histolytica.* If a specimen showing active ameboid movements of the cells is removed from the warm chamber, and examined under a microscope at room temperature, the majority of the cells retract their pseudopods and become spherical.

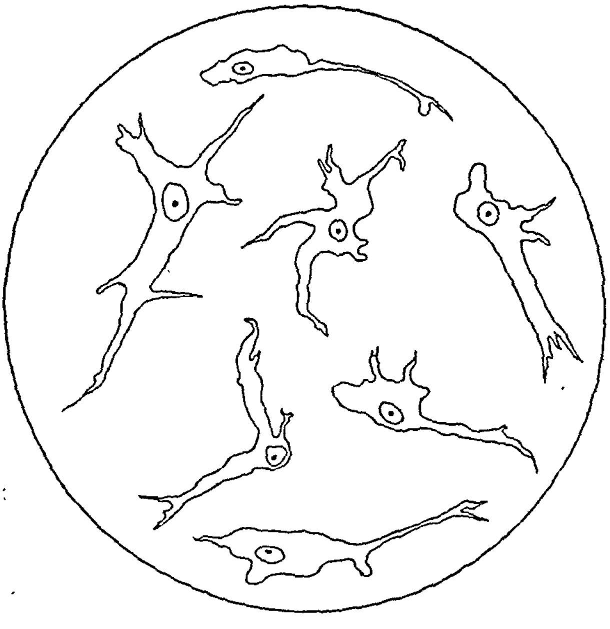

Fig. 2.—The sarcoma cells migrate from the tissue to the plasma by ameboid movement. Pseudopods are thrown out on all sides in characteristic fashion.

The phenomenon of ameboid migration of sarcoma cells growing *in vitro,* seems to us readily applicable to the explanation of the spread of malignant growths in the tissues of the body. Carl Lewin[4] has urged, on theoretical grounds, the necessity of such a conception. A critical discussion of the subject of tumor metastasis cannot be attempted at this time, but we should like to point out that the conception of ameboid migration of tumor cells explains most reasonably the invasion of tissues, lymph-spaces, and lymph-vessels and blood-vessels by malignant growths. It is especially helpful as an explanation of the dissemination and localization of cancer in serous cavities.

437 West Fifty-Ninth Street.

DUODENOJEJUNOSTOMY

FOR THE CURE OF POSTOPERATIVE REGURGITANT VOMITING OF BILE AND PANCREATIC JUICES, FOLLOWING GASTRO-ENTEROSTOMY

P. S. P. ST. L. MONCURE
NORFOLK, VA.

Necessity is the mother of invention, and it was necessity that forced me to "dig up," so to speak, the ascending or terminal portion of the duodenum and "buttonhole" it to the distal portion of the jejunum in the case of a patient operated on six weeks previously for ulcer of the stomach, in which a posterior, no-loop gastro-enterostomy had been performed. The operation, though it relieved the original symptoms entirely, yet by some spur or kink occurring at the anastomosis, caused, about every second day—sometimes oftener—a profuse vomiting of biliary and pancreatic fluids. This vomited material rarely contained any food; and, although great quantities of fluid would be vomited at one time (at least a quart sometimes), it did not accumulate in the stomach, as lavage just before vomiting commenced would often fail to bring any of it away—the water returning clear—when, in less than an hour, bright yellow bile with no food particles would be vomited.

The operation which I performed for the relief of this regurgitant vomiting is not necessarily tedious or long. I believe that it will be performed more frequently in the future, primarily perhaps through election, to prevent the possibility of regurgitant bile-vomiting, and secondarily—as was my case—through necessity. The operation consisted of anastomosing the ascending or terminal portion of the duodenum—just as it turns upward—to the jejunum, for the drainage of bile and pancreatic fluid. The operation is best described by citing the case:

History.—Mrs. S., aged 28, white, married several years, having no children, formerly a seamstress, came to me July 5, 1909, with the following symptoms: pain in epigastric region; periodic vomiting some hours after eating; emaciation; history of vomiting for fourteen years; blood said to have been vomited years ago; none in recent years. The patient was having a temperature every day from 99 to 100.5 F., she had irregular chills, and vomited a great deal. She improved somewhat on stomach lavage, diet, and drugs, but after three weeks' trial, consented to an operation. Lavage was kept up until the operation was performed, July 30. I did the no-loop operation of posterior gastro-enterostomy, as described by Moynihan, the ulcer being at the pyloric end of the stomach. The patient recovered very rapidly and left the hospital in less than two weeks, vomiting in this time only once or twice. She very soon, however (in a week or two), began to vomit great quantities of clear bile. The patient would vomit a great deal, and then have a period of rest for a day or two, especially if given a purgative. She never vomited food; had a most excellent appetite, and would become ravenously hungry just after vomiting the bile. I began to irrigate the stomach again every morning before breakfast, but seeing no benefit after ten days' trial, I finally suggested another operation which the patient, after a few days more of vomiting, urged me to perform at once. This was done October 9, sixty-nine days after the first operation.

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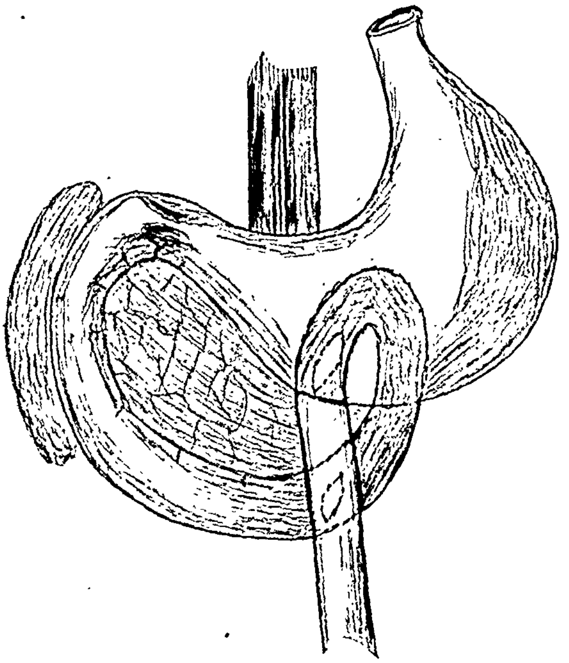
[4] Lewin, Carl: Die bösartigen Geschwülste, 1909, Leipsic.

Operation.—I went in to relieve the vicious circle, and intending undoing my work on the stomach, if I could not see any other way to do it. Adhesions were so dense around the site of my first operation that it would have been very difficult to undo the work. The engorgement of the bile and other fluids in the duodenum, however, made it stand out very prominently, so I at once decided to work up this ascending portion of it, and make a lateral anastomosis with the descending or distal portion of the jejunum, about 2 or 3 inches below my first operation. I used a Roosevelt clamp and had no great difficulty in doing the anastomosis. Barring a rather protracted period of nausea and retching following the operation, or rather, the anesthetic, which she took poorly, the patient made a rapid recovery. She has never vomited any bile since, and fourteen months after the operation was in most excellent health, having fattened about 35 pounds.



Duodenojejunostomy after a gastro-enterostomy, the ascending portion of the duodenum being joined by a lateral anastomosis with the jejunum 2 to 3 inches distant from the gastrojejunostomy.

The points to commend the operation are these: The possibility of draining the duodenum directly into the jejunum—a safety-valve, so to speak, in the operation of the gastro-enterostomy—which can be done either at the time of the gastro-enterostomy operation, or later if it becomes a necessity. Either a suture, side-to-side anastomosis may be performed—as was done by me—or a Murphy button may be used. I prefer the former, however. I have performed posterior gastro-enterostomy since, but did the operation as described by W. J. Mayo, and, having no subsequent vomiting I have had no opportunity of performing again the operation described above. I have since twice operated on the cadaver, however, and had no difficulty in pulling a loop of duodenum through the peritoneum covering it, and anastomosing it to the jejunum.

Vomiting of bile from any cause can be safely and comparatively easily corrected without having to undo the work on the stomach—when it has been performed—which work may, indeed, be serving a good purpose. The operation is more difficult than a simple gastro-enterostomy, yet it is not a desperate operation and should not take any longer than gastro-enterostomy. It is an operation that will not be performed very often, as the necessity for it is rare, and indeed will become more so; but it can be done; and with marked benefit to the patient. I know of one or two patients now walking around the country on whom gastro-enterostomy has been performed, and who suffer so much from vomiting or other causes, that it would be well for them if they had a little safety-valve to let that bile directly through from the duodenum into the jejunum.

I hope it will be my pleasure some day to hear that some one else has tried the operation with the same happy result.

57 Granby Street.

THE DIAGNOSIS OF MAMMARY TUMORS

WILLIAM L. RODMAN, M.D., LL.D.
Professor of the Principles of Surgery and Clinical Surgery, Medico-Chirurgical College; Surgeon to Medico-Chirurgical, Presbyterian, and Philadelphia General Hospitals
PHILADELPHIA

Twenty years ago I felt sure that a differential diagnosis between benign and malignant tumors of the mammary gland could be made with reasonable certainty. An increasing experience has taught me year by year the fallacy of this opinion, which, I may say, was at the time quite orthodox. Then benign growths were considered to comprise less than 10 per cent. of all mammary neoplasms. We now know that this estimate of Gross and others was far too small, just as we also appreciate that their estimate of sarcomas was much too large. To-day we increase the number of benign growths measurably and restrict the number of sarcomas greatly. Gross estimated that non-carcinomatous growths comprised 18.27 per cent. of mammary neoplasms, and that they were about equally divided between benign growths and sarcomas—9.52 per cent. of the former and 8.75 per cent. of the latter.[1]

I have carefully analyzed the statistics of 5,000 cases of mammary tumors, taking them largely from German clinics where accuracy was likely to obtain, and as a result have found that 16.5 per cent. were benign and that 2.7 per cent. were sarcomas. Thus we find 19.2 per cent.—slightly more than Gross found—non-carcinomatous, but, unlike him, find that sarcomas comprise only a very small part of such lesions and may, indeed, be considered as rare in this situation.[2]

Bloodgood,[3] in an analysis of 694 mammary neoplasms in the Johns Hopkins Hospital, encountered 14 sarcomas, or exactly 1.5 per cent, a still smaller proportion than we found.

It is of the greatest importance to settle this question before taking up the differential diagnosis, as it is my belief that the comparative rarity of sarcoma in the breast is not generally appreciated. Its infrequency in this organ is in marked contrast to its frequent occurrence in many others. At the same time it is now appreciated more than ever before that many of the benign tumors tend markedly, in time, to undergo malignant transformation; and so much so is this the case with some of them, notably the papillary cystadenomas, that they should be looked on from the very beginning as potentially malignant.

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[1] Gross, S. W.: Tumors of Mammary Gland, 1880, Appleton & Co.

[2] Rodman: Diseases of the Mammary Gland, 1908, P. Blakiston's Son & Co.

[3] Kelly and Noble: Gynecology and Abdominal Surgery, 1908, ii.

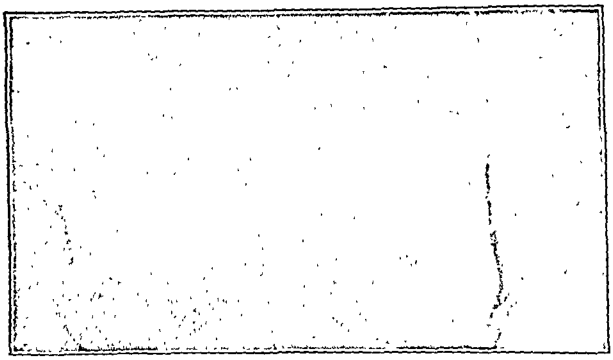

Fig. 5.—Photograph of patient shown in Fig. 2. Left nipple shows marked retraction, in association with abnormal involution.

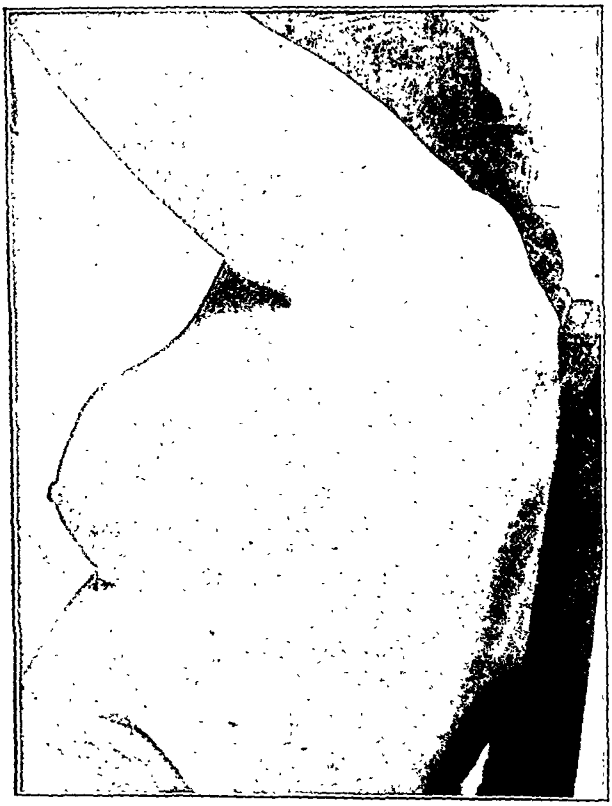

Fig. 7.—Side view of growth shown in Fig. 6.

Fig. 6.—Growth clinically diagnosed as a sarcoma in a woman 47 years old. Pathologically diagnosed as either a myxoma which has undergone sarcomatous change, or benign growth.

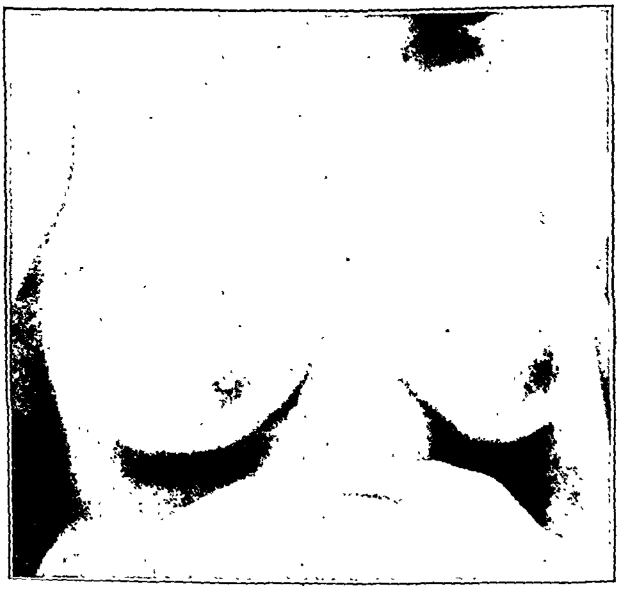

Fig. 8.—Periductal fibroma (fibroadenoma), the largest the author has encountered. In size and shape it resembled a goose egg. Photograph showing tumor after removal shown on page 112 of the author's work on Diseases of the Breast.

ABNORMAL INVOLUTION

Another condition of the greatest importance and frequency has been given much attention during recent years, and its careful study has shown that it manifests a decided tendency to result in carcinoma. I refer to abnormal involution, or, what is perhaps a better term, fibrous and glandular hyperplasia with retention cysts (Whitney), or senile parenchymatous hypertrophy (Bloodgood). It has also been called Schimmelbusch's disease, the disease of Reclus, general cystic disease of the breast, etc. Warren, in a careful analysis of his series, found resulting or coincident carcinoma in 13 per cent. of his cases; Greenough and Hartwell in 10 per cent. of theirs; other authors have made a much higher estimate, some as high as 50 per cent. This condition is most likely to be encountered between 40 and 50 years of age, though it often occurs much earlier and not infrequently later. Thrice within a year I have encountered it resulting in malignancy in women aged 36, 38 and 41 years. All the patients were unmarried. It is far more likely to occur in maiden women, married women who are sterile or in mothers who have not suckled their children. All parts of the breast may be involved, but in my experience, if the condition is limited, as it sometimes is, to a single quadrant, it is most likely to be the lower and outer one. Occurring usually at the cancer age, having clinically many of the signs of malignant dis-

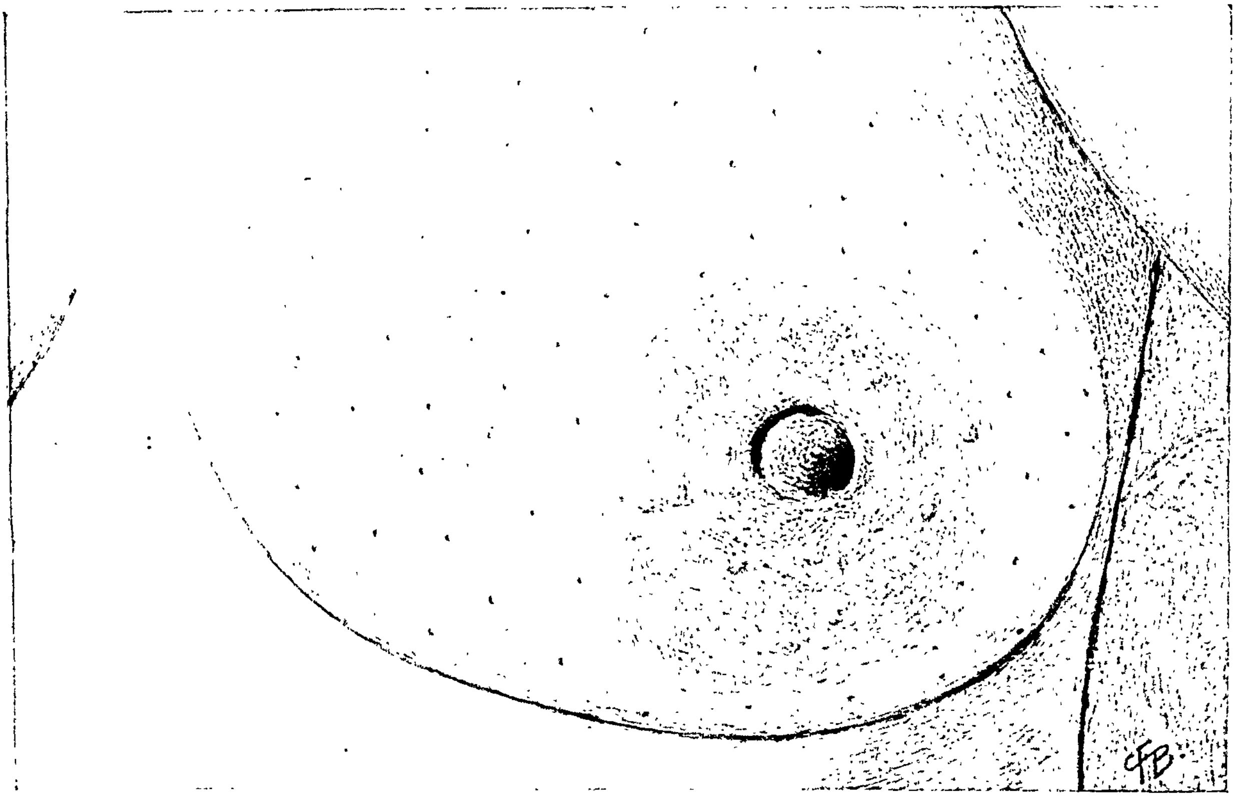

Fig. 1.—Acute cancer in a patient 45 years of age. The color of the skin is accurately portrayed in the drawing, also the indentations resembling the skin of an orange.

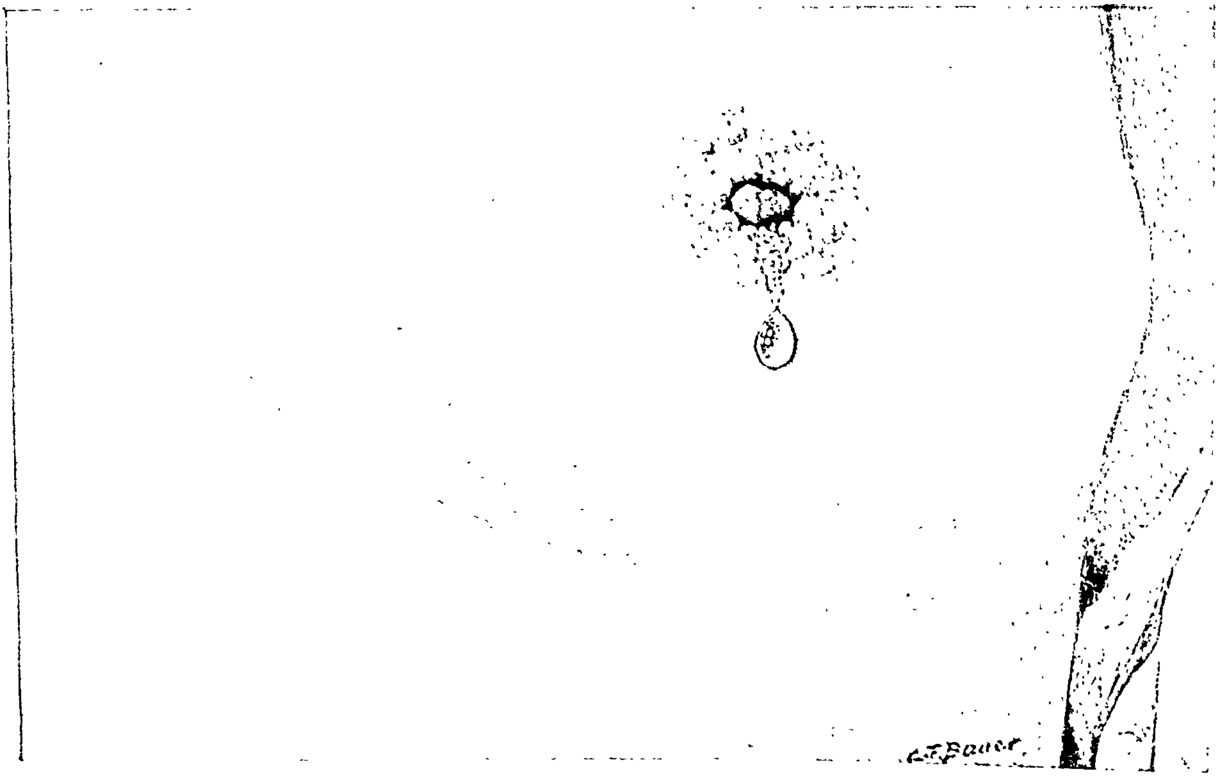

Fig. 2.—Typical retraction of the nipple, also a watery discharge therefrom, in a patient 58 years of age with abnormal involution. The discharge at times is sanguinolent.

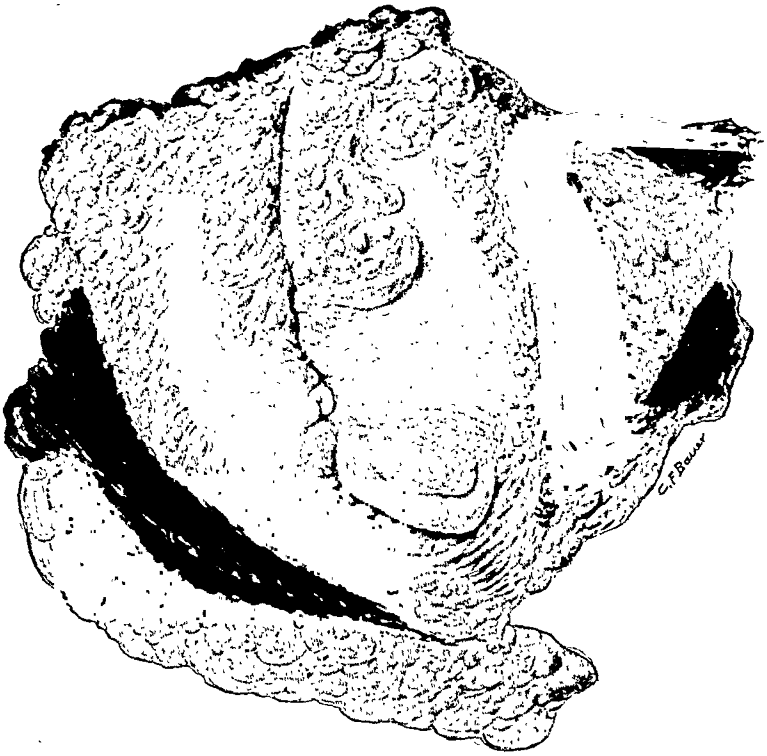

Fig. 3.—Cross-section of breast after removal. No evidence of malignancy. Typical abnormal involution.

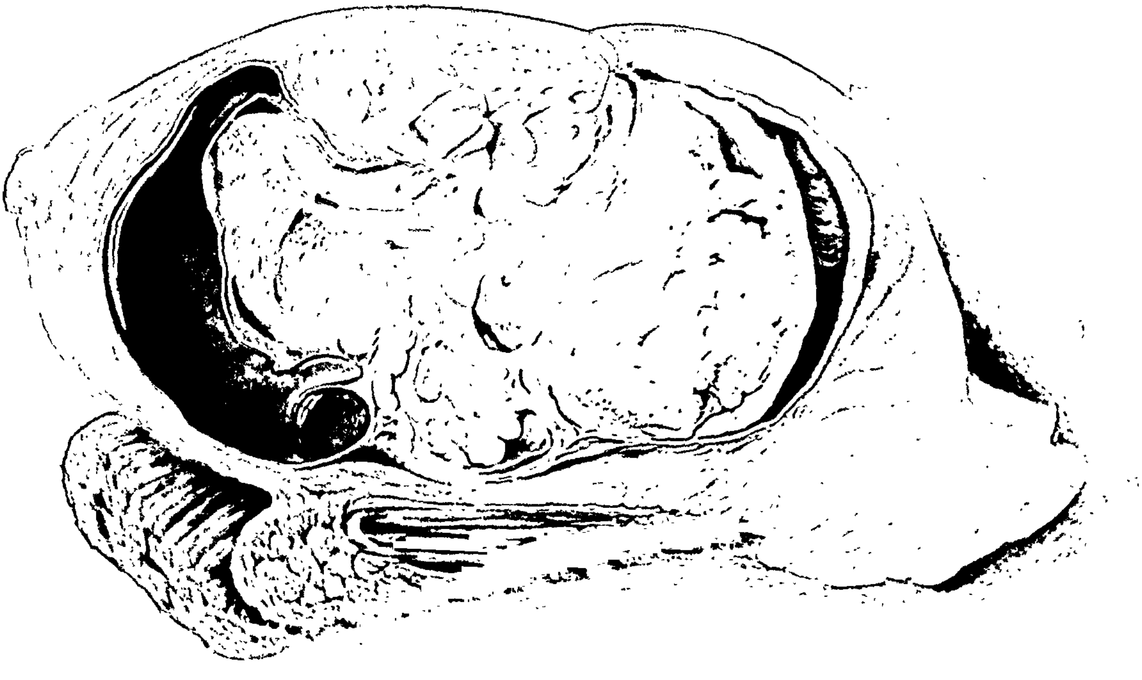

Fig. 4.—Cross-section of sarcoma of the breast which in places has undergone marked cystic degeneration. The case is interesting from the fact that it has been considered by some excellent microscopists as showing carcinomatous spots also.

case, its recognition becomes a matter of the first importance. More than any other condition will it, in my judgment, occasion embarrassment to the diagnostician and perplexity to the surgeon even at the time of operation. Usually its nature will be revealed after incision and macroscopic examination, particularly if it has advanced to what Bloodgood has described as the adenocystic stage, or where there are numerous small, almost microscopic cysts. But in the first or hyperplastic stage nothing short of the microscope will positively reveal its nature. I shall subsequently refer to it more at length.

I would again emphasize the danger of coincident or resulting carcinoma, and that it is too great to be assumed until every safeguard has been taken. In the cases at the Hopkins Hospital associated with carcinoma, fourteen in number, all were, according to Bloodgood,[3] of the adenocystic type. This is most suggestive and should influence materially the treatment.

The several forms of mastitis, pyogenic and non-pyogenic, will not infrequently embarrass even the most careful and expert diagnostician. So great a surgeon as von Langenbeck amputated the entire breasts in at least two patients without suspecting that he was dealing with a simple inflammatory lesion (Keen[4]). All have encountered instances of mastitis in nursing mothers which for a time at least were puzzling, particularly when occurring during the first three or four months of lactation.

ACUTE CARCINOMA

I would here call attention to acute carcinoma of the mammary gland, which so closely simulates inflammation that Volkmann has described it under the name of carcinomatous mastitis. It usually begins as a diffuse rather than a discrete process, in this respect differing from the ordinary forms of carcinoma. Not infrequently has it been associated with pregnancy. Whether such be the case or not, it runs a remarkably rapid course, oftentimes destroying life within six months. The entire gland is enlarged, hard, tender, and the skin covering may be red and edematous. The symptoms of cachexia manifest themselves early and general metastases occur quickly.

I have encountered four well-marked instances of this affection during the past eighteen months. Three of them began as diffuse processes and had been treated with local applications with the belief that they were abscesses. One of them was actually incised. One of these occurred in a woman 45 years of age who had not been pregnant for twenty years. She was treated for several weeks in the out-patient department of the Pennsylvania Hospital, where, I assume from her statement to me and the nature of the local treatment employed, that a diagnosis of mastitis had been made. When I saw her later a diagnosis of acute carcinoma was evident. The breast was at least one-half larger than its fellow, the skin covering red, edematous and tender. The glands of the axilla were extensively involved and there were numerous shot-like bodies in the skin between the nipple and axilla. A complete operation was at once performed, but more with the hope of giving temporary relief to the intense pain from which the patient was suffering than with any expectation of a permanent cure. She lived more than six months after operation, dying from metastases to the lungs, liver and opposite breast.

The second case I saw at the clinic of Dr. W. L. Estes, at South Bethlehem, in a stout woman about 45 years of age. The appearance of the breast was almost identical with that in the case just described. It was explored under the belief that it was inflammatory, but the exploration was at once followed by a complete operation. I have no records of this case, as it occurred in the practice of another surgeon.

The third case I saw November, 1909, in a woman aged 35. She noticed, four months previously, when she was one month pregnant, a small lump in the upper and outer quadrant of her left breast. At the time when she first consulted me she was five months pregnant and the disease had advanced so rapidly that the entire breast was enlarged, tender and involved throughout. If her statement that it began and for three months remained as a small lump in the upper and outer quadrant of the breast can be relied on (and I am not disposed to question it, inasmuch as the breast was harder and more involved at this point) it indicates that the disease sometimes begins as a discrete process. S. W. Gross reported a similar case.[1] There were several shot-like bodies in the skin over the outer hemisphere of the affected breast.

I explained to her husband, a dentist with medical training, that the outlook was a gloomy one, and that the operation promised little further than temporary relief from her pain, which was marked, and improvement in her mental condition. She was greatly distressed in mind, worrying constantly about her condition. Her husband insisted on an operation, which was performed in the Presbyterian Hospital. She experienced entire relief, mental and physical, for nearly two months.

Later I was called in consultation by Dr. W. R. Nicholson, who had been engaged for her accouchement. She was then suffering great abdominal pain due to the conjoint pressure occasioned by a very much enlarged liver and a uterus seven months pregnant. He believed, and I concurred in his opinion, that a premature delivery would soon be necessary. This was brought on a fortnight later, the patient dying about two months subsequently.

On May 17, 1910, I operated in another and most typical case of acute cancer, which had been seen and referred to me by Drs. Darnell and Stewart of Atlantic City. The patient was 45 years of age, married, with one child 24 years old. She had not been pregnant since, but had had an abscess of this breast after her child was born. Attention was not attracted to the breast until three weeks prior to operation, when it was seen to be enlarged somewhat and the site of dull pain and throbbing at night. At the time of operation the integument was distinctly reddened and presented the most characteristic orange-skin appearance that I have ever seen. It is quite well portrayed in the colored drawing herewith shown (Fig. 1).

Of the four cases of acute cancer that I have encountered in the past eighteen months only one was associated with pregnancy. In all of the others the patients were about 45 years of age and none of them had been pregnant for many years.

I have partial records of other cases of acute cancer seen and reported by Prof. Edward P. Davis and others. I am sure that the condition is more common than has been hitherto thought, and that it is perhaps as frequent in non-pregnant as it is in pregnant women.

DIFFERENTIATION OF CYSTS

Difficult as it is to diagnosticate the several conditions already mentioned, it is more difficult to differentiate between benign and malignant cysts, with or without a discharge from the nipple. The character of the discharge, when present, is by no means the aid to diagnosis that I formerly thought and that some others still think it to be. A scanty, thin, sanguinolent discharge is certainly suggestive of carcinoma, whereas a mucoid one is evidence of a benign growth. Thick, granular contents always suggest malignancy. A discharge of blood or markedly bloody fluid strongly suggests an intracystic papilloma. The latter condition, though originally benign, shows a marked tendency to undergo malignant change. Unless a discharge of blood can be clearly shown to have resulted from an intracystic papilloma the malignancy of the cyst should be assumed and the entire breast removed. A more or less blood-stained fluid, however, is now and then found discharging from the nipple in association with abnormal involution.

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[4] Keen: Amputation of the Female Breast, Cleveland Med. Gaz. December, 1894.

I have encountered several cases of this nature, one that of a colored woman, aged 39, kindly sent in to my service at the Presbyterian Hospital by Dr. Edward B. Hodge on December 1, 1909. She was married, had borne five children, the youngest being 11 years of age. There had for two years been a watery discharge from the left nipple, which in time became yellow and afterward noticeably bloody. The breast was explored by the plastic resection method of Warren. A rather large cyst was found behind the nipple. In addition there were numerous shot-like cysts throughout the gland, which caused me, in spite of the frozen section report, which indicated the part examined to have been benign, to sacrifice the entire breast. It was a typical case of abnormal involution. Had there been only the single cyst behind the nipple I should not have resorted to such drastic treatment, but the associated minute cysts scattered throughout the breast caused me to feel that the patient's safety demanded removal of the entire breast.

I recently encountered in a widow, aged 58, a typical case of abnormal involution with a discharge from and *marked retraction of the nipple.* The discharge, which began seven or eight years ago, was first watery, later on becoming yellowish, and for the last year has been at times bloody. The retraction of the nipple has, so she states, been evident for two years, but during the last six months has been marked. Notwithstanding the discharge and retraction of the nipple, a clinical diagnosis of abnormal involution with cysts was made and complete removal of the breast advised. It was practiced on April 21. The condition before operation is well shown by Figure 2. The macroscopic appearance of the removed breast is also shown in the colored drawing (Fig. 3).

The microscopic report confirms the clinical diagnosis, showing no malignant change whatsoever. The case is interesting on account of the discharge from and marked retraction of the nipple in association with abnormal involution.

It is of the utmost importance to recognize cancerous cysts before or at the time of operation, for if such is not the case the prognosis is extremely bad. Both Halsted[5] and Bloodgood[3] positively state that not a single permanent cure has resulted from operations performed in the Johns Hopkins Hospital when the cancerous nature of the cyst was overlooked at the time of the first operation. Even though soon afterward a second and complete operation was done, the ultimate result was invariably bad.

I made such a mistake in September, 1906, when operating on a patient with a very large cyst situated in the lower and outer quadrant of each breast. Each cyst was as large as a tangerine orange and contained several ounces of a thin, brownish fluid. My pathologist was not present prepared to make frozen sections, having misunderstood the time of our engagement. The character of the fluid aroused my suspicions and almost all of each breast was removed. The muscles, however, were not disturbed, nor were the axillæ cleared. I confess that I was somewhat surprised to receive Prof. Joseph MacFarland's report, ten days after operation, stating positively that each growth was a medullary carcinoma. Feeling it my duty to suggest a second and more thorough operation, I candidly explained the facts to the patient, admitted my mistake and requested the privilege of doing a second operation. This was declined. I am happy to state that the patient when examined for me by her physician, Dr. John B. Cassidy, of Burlington, N. J., was reported as perfectly well generally and free from recurrence locally. It is nearly four years since the operation.

RETRACTION OF NIPPLE

Retraction of the nipple is most significant, but not, as often stated by some high in authority, *pathognomonic* of carcinoma. In the first place it will be encountered in only 52 per cent. of undoubted cancers—those which are situated behind or sufficiently near the nipple to compress and pull on its trabeculæ; in the second place, retraction sometimes is present, in more or less degree, in perfectly benign conditions—as, for instance, congenitally depressed nipples; in patients who have had mastitis, with or without abscess; those with marked hyperplasia of the connective tissue in connection with abnormal involution: and in some who have benign tumors. Gross found the nipple retracted in 5.22 per cent. of non-carcinomatous growths. It is, however, in the latter, and indeed in all non-carcinomatous conditions, more or less mobile and rarely if ever infiltrated. In malignant conditions it is both immobile and infiltrated.

FIBROMA AND MYXOMA

It is manifestly impossible for a paper of this character to describe accurately each mammary growth. I shall only refer to the most common benign neoplasms, the adenofibroma or periductal fibroma and the periductal myxoma.

The periductal fibroma is either solitary or multiple, more often the former, and is not infrequently found affecting both breasts at the same time. It is situated indifferently in all parts of the breast. If it is more obnoxious to any portion of the gland it would seem to be the upper hemisphere. It is freely movable, encapsulated, occasionally lobulated, and now and then is the site of moderate discomfort, if not actual pain. In a few instances I have seen rather marked pain associated with very small fibromas. It is said to follow trauma in from 10 per cent. to 25 per cent. of cases.

Periductal myxoma is also common in women under 30, but occurs more frequently than does fibroma in older women. It also attains a greater volume, is of more rapid growth and is less apt to be accompanied by pain than fibroma. It is somewhat elastic to the touch, is always lobulated and is more frequently multiple than fibroma.

I have recently operated on a woman 47 years of age for such a growth, which was the largest tumor of this character that I have ever seen. It was of two years' duration. Its growth had been rapid during the past six months, and was accompanied with some pain. The appearance of the breast was so suggestive of malignancy that it was pronounced inoperable carcinoma by a prominent surgeon of this city; hence, he declined to operate. Figures 6 and 7 show the appearance of the breast before operation. This case shows the fallacy of depending on the age of the patient as a guide to diagnosis. The patient's age, and the duration and size of the neoplasm with the discolored skin, certainly indicated the growth to be probably malignant. The absence of enlarged axillary and supraclavicular glands led me to operate. I had made a clinical diagnosis of sarcoma. The pathologists differ as to its microscopic appearance, one maintaining that it is a myxoma which has undergone sarcomatous change, the other denying that there is evidence of malignancy.

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[5] Halsted: Tr. Am. Surg. Assn., 1907.

DIAGNOSIS

Enough, it seems to me, has been said concerning the several varieties of cysts. Suffice it to say that in the majority of instances they cannot be accurately diagnosticated clinically and their true nature will be revealed on exploration and macroscopic inspection or by means of only frozen sections.

The most reliable evidence of incipient cancer will be furnished by an examination of the entire breast after comparing it with its fellow. If there is atrophy of the superficial fascia over a mass, however small, and if in addition there is dimpling of the skin, however slight, over it, a diagnosis of cancer is reasonably certain, provided one can eliminate a previous mastitis. To detect this atrophy of the superjacent fat, and especially the dimpling or puckering of the skin, over a mass which may or may not be distinctly felt, is not easy if only a cursory examination be made. It is particularly difficult in small, deep-seated retromammary growths. In such circumstances pulling the breast forward with both hands will often exaggerate and make evident dimpling of the skin, and also perhaps retraction of the nipple, when such signs had not hitherto been elicited. A better test in my judgment is to move the breast freely, making it take the widest possible excursion, when the attached skin above is certain to be pulled on and to show noticeable dimpling if there has been any shortening whatsoever of its trabeculæ. In tumors situated superficially, the corrugated or orange-like skin may be either apparent or made so by pinching the skin between the thumb and fingers. Palpation is of the very greatest value. A benign growth feels more or less soft, smooth, circumscribed, encapsulated, and movable; carcinoma is hard, irregular, non-encapsulated, infiltrating, and immovable. Not infrequently are carcinomas movable for a time, but in my experience this is exceptional. Recently I saw, in consultation with Dr. L. W Steinbach and Dr. David Reisman, an unmarried woman, upward of 40, with a small, movable tumor, situated in the inferior and inner quadrant of the gland. It was extremely low down, growing from the periphery of the breast. Its nature was evident macroscopically, and the microscope showed it to be a typical scirrhous carcinoma. Sometimes, a better impression as to the nature of the growth will be furnished by palpating with the flat hand, pressing the breast firmly against the costal wall, rather than by using the fingers alone.

In conclusion, I wish to state positively my conviction that no one, however skilled, experienced, or careful he may be in his examination or in eliciting the history of the case, can safely determine the nature of a lesion before operation in more than 75 per cent. of his cases. In the remaining 25 per cent. *at least* either diagnostic incision or the use of frozen sections will be necessary. There is no doubt but that one of experience in such lesions will, as a general rule, be able to recognize them macroscopically, and it is very much better to do so, when possible, as it does away with the necessity of having present an experienced pathologist with his necessary apparatus. I maintain, however, that it will be only the very experienced surgeon, and moreover, one who has had considerable laboratory experience, who will be able to recognize benign and malignant growths with sufficient accuracy to warrant him in employing or withholding radical operation. It can usually be done in solid growths, but cannot be done with cysts, and the difficulty is greater in abnormal involution.

Macroscopically, periductal fibroma presents a distinct fibrous capsule. The tumor is rather hard and on section the surface is pinkish-white in color, especially in young tumors. In those which have remained in the breast for some years, the color is more apt to be white. The knife meets more resistance in cutting these growths than in sectioning normal breast tissue. There is occasionally slight lobulation. The cut surface is convex. These tumors rarely attain large size, though I have removed one as large as an orange from the upper and outer quadrant in a woman four months pregnant. The method of Warren was followed. Subsequently the child nursed this breast. The patient called to see me recently, four years after operation, to report herself as well and to thank me for sparing her breast.

Figure 8 represents very well the appearance of the breast before operation.[6]

A periductal myxoma also presents a fibrous capsule. To the palpating finger there is a more or less characteristic elasticity. The growth sections easily and the cut surface is distinctly lobulated. The glistening myxomatous lobule projects beyond the ring-like depressions of the firmer connective tissue.

The gross pathology of abnormal involution depends on the stage of the process. The early changes are those of hyperplasia. The affected breast is probably slightly larger than its fellow. It is firmer, but not usually uniform in this firmness. When cut, the breast is found to contain an excess of connective tissue, although the parenchyma is also increased. There will nearly always be minute cysts found here and there, no matter how early the process is discovered. Later on, these tiny cysts dilate, and then the cystic stage may be said to have been reached. The thickened areas are not so hard as those characteristic of scirrhous carcinoma, and do not show the same tendency to infiltrate the surrounding fat. The color is whiter than carcinoma. The lymph-nodes may be somewhat enlarged, but do not show the appearance typical of cancer.

It is exceedingly difficult to differentiate abnormal involution from scirrhous carcinoma, and in fact, it is my opinion that it frequently cannot be done without the aid of the microscope. Scirrhous carcinoma has certain characteristics that should be recognized from gross appearances. It usually begins as a more or less localized area of intense hardness, with the characteristic adhesions to skin and muscle, with, frequently, retraction of the nipple. On section, the tissue cuts with increased resistance, but it is perhaps not so difficult to section as an area of abnormal involution. The color is distinctly gray, a contrast to the white normal breast, and dense strands of connective tissue may be seen running between yellowish streaks composed of epithelial tissue. The cut surface retracts after sectioning. The mass can be seen to have no definite limitations, but to be sending infiltrating processes in various directions. Of course, if there have been metastases to the lymphatic glands in the axilla, the diagnosis of malignancy becomes more certain. Metastases may be recognized in general by large, white, firm glands which, if carefully examined, however, will show some remaining portion of the normal gray lymphoid tissue.

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[6] The appearance of the tumor itself after removal is shown in Figure 20, page 112, in my book on Diseases of the Breast.

FROZEN SECTIONS

I am fully aware that some excellent microscopists more or less discredit the reliability of frozen sections and do not think freshly stained as reliable as fixed specimens. I am not sufficiently experienced in microscopy to discuss this subject. I do know, however, that in more than fifty cases where frozen sections have been made for me during the past seventeen years, but two mistakes have resulted. One of them was made by a young man, inexperienced in the method, who volunteered, in the absence of my customary pathologist, to act for him. He had never resorted to the method before. He reported a case of abnormal involution in a woman 46 years of age as malignant, when a subsequent and more careful examination failed to reveal positive evidence of cancer. I do not think, however, that a mistake was made in sacrificing the entire gland in this instance, inasmuch as the breast was affected throughout by well-marked abnormal involution. Moreover, the patient's mother and sister had died of cancer of the breast. The second mistake was made in a case in which a clinical diagnosis of probable carcinoma had been made in an unmarried woman 41 years of age. It was more than pardonable, as when the second examination was made from fixed specimens ten days later, not the slightest evidence of malignancy was encountered until the thirteenth section was examined. So the mistake might just as well have occurred as a result of the second examination as the first, had not so many sections been prepared and carefully examined. The result of the second examination was promptly and candidly reported to the patient, who was fortunately intelligent enough to accept it in the proper spirit and submitted the next day to a radical operation. I am pleased to state that at the end of eighteen months she remains entirely well.

It is most important to give to the pathologist the entire tumor, and not a small portion taken at random. The mistakes reported are not due to the method or principle, but to its interpretation. In other words, the surgeon, and neither the method nor the microscopist, is at fault.

Dr. Charles Mayo and his pathologist, Dr. Louis B. Wilson, write me that during the last five years more than three hundred tumors of the breast have been removed and a microscopical diagnosis made from frozen sections while the surgeon waited for a report. I quote Dr. Wilson's words:

> No positive diagnosis has ever been given on a specimen which subsequently proved to be not carcinoma. So far as we have any history of the cases, no negative diagnosis has ever been given on a case which subsequently proved to be carcinoma. This rather unusual record is probably due to the fact that the surgeon almost invariably removed the entire tumor with a bit of the surrounding breast tissue before submitting it to the laboratory. When the tumor is very large, of course this cannot be done, but in such cases it is usually possible to make the diagnosis clinically. Cases positively diagnosed as carcinoma clinically are not included in the three hundred. If the tissue contains the pathologic evidence of carcinoma, it can be determined quite as well by a fresh stain as in fixed specimens.

Dr. Mayo also says that he does not think it possible for anyone always to tell the character of a solid or cystic growth of the breast by naked eye appearances. I am certainly of the same opinion, as said before, and I have found frozen sections so satisfactory for many years that I feel it my duty to make use of them in every doubtful case. I invariably explain the situation to the patient and get her consent for a complete operation, should it be necessary. Moreover, there is this advantage in the practice—I find that some patients who would refuse a radical operation offered unconditionally will consent to it on the condition of the microscope's furnishing undoubted evidence of malignancy. In other words, they will consent to a mutilation probably necessary when they would refuse such assent believing that it would certainly be necessary.

OPERATIVE METHODS

During the last five years, I have invariably practiced Warren's method of plastic resection in all benign growths and in those of questionable nature. No matter where the tumor is situated, or whatever its size, be it large or small, I think that the free incision, beneath the breast, which leaves no unsightly scar and which furnishes the best opportunity to examine the entire breast carefully, is much better than a smaller incision directly over the tumor. I have not had in a single case the slightest reason to regret its employment, for in cases of advanced abnormal involution, or even malignancy, I have been prevented from going astray by depending on the report promptly furnished from examination of frozen specimens. In all cases of doubt, the wound is promptly cauterized with the actual cautery, and plugged with gauze while awaiting the microscopic report.

I must insist that the danger of infecting the wound by liberating cancer cells has been greatly overestimated, and that such danger is reduced to a minimum provided the actual cautery is employed. I am unwilling to say that the risk is entirely overcome in this way, but it is rendered so slight that it is practically negligible and is as nothing to the hazards of delay until a clinical diagnosis can be made.

Better results in the operative treatment of malignant disease here and elsewhere must come, if they come at all, only by resorting to diagnostic incision and frozen section reports in doubtful cases. I have greater faith in frozen sections, and always rely on them in hospital practice; but when operating apart from a hospital and a competent pathologist, have tried to teach myself to recognize macroscopically the several conditions likely to be encountered.

I wish to state positively my position concerning incision for diagnostic purposes *only*, the wound being closed and the action of the surgeon governed by a report from the laboratory made days or weeks subsequently. In the light of our present knowledge there is no warrant for such procedure, as cancer cells are disseminated thereby, and a radical cure from a second operation, however early and extensive, is rendered far less likely.

1904 Chestnut Street.

RECENT STUDIES ON LIPOIDS*

W. KOCH, Ph.D.
CHICAGO

The constituents of any tissue can be conveniently subdivided into three main groups, according to their physical properties.

1. Solid aggregates (fat droplets, glycogen granules and solid structures).
2. Colloids (proteins and lipoids).
3. Crystalloids (salts, water-soluble extractives like creatin, etc.).

In the first group, the fat droplets and glycogen granules occupy about the relation to a living cell that the coal in the tender does to a locomotive. They serve as a convenient source of energy, but do not represent an essential part of the functionally active machine. The crystalloids in a good many cases, but by no means in every case, represent end-products of chemical activity, and as such do not concern us here. The colloids, a name originated by Graham,[1] form an essential part of the mechanism of the living cell, and as such represent larger aggregates of molecules, which are on the borderline between suspensions and true solutions.

Their ability to change this state of aggregation is of great functional significance as will be illustrated later. A very good discussion of the properties of colloidal solutions has been given by A. A. Noyes.[2] The colloids of the tissues are further subdivided into two main groups, the proteins and the lipoids. The term "lipoid" was introduced by Overton[3] to designate a class of compounds which are characterized by their solubility in various fat solvents, and occur in large quantities in the nervous system. In their chemical properties and structure the lipoids do not resemble one another very closely, but their relation to fat solvents and their peculiar ability, as distinguished from the neutral fats, to form permanent emulsions or colloidal solutions with water, make it convenient to consider them as a group.

A study of their biologic properties has further served to justify this classification. The credit for first calling attention to certain members of this group belongs and has always been given to Hoppe-Seyler.[4] The pioneer work on the lipoids of the nervous system has, however, been done by Thudichum,[5] and it has been my privilege at various times to call attention to the splendid work of this much-neglected investigator, who during his lifetime received practically no recognition, even from his immediate colleagues. The classification of lipoids given in the table is essentially due to Thudichum, although the term "lipoid," as already stated, was introduced more recently by Overton.

CLASSIFICATION OF LIPOIDS ACCORDING TO THUDICHUM

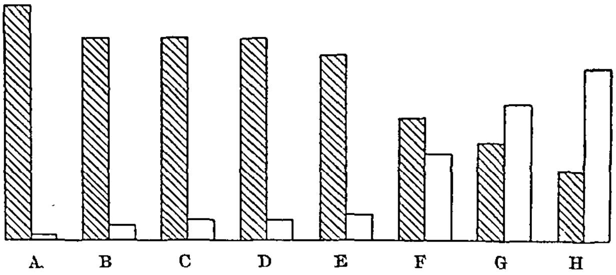
1. Cholesterols (carbon, hydrogen and oxygen).
    Structure: Unknown.
    Example: Cholesterol (formerly incorrectly called cholesterin).
2. Cerebrosids (carbon, hydrogen, oxygen and nitrogen).
    Structure: Unknown.
    Groups isolated and identified: Galactose.
    Example: Phrenosin (cerebrin).
3. Phosphatids (carbon, hydrogen, oxygen, nitrogen and phosphorus).
    Structure: Not satisfactorily known. Esters of orthophosphoric acid.
    Groups isolated and identified: Palmitic, stearic, oleic, linolinic and glycerophosphoric acids, cholin.
    Examples: Lecithin, kephalin.
4. Sulphatids (carbon, hydrogen, oxygen, nitrogen, sulphur, and sometimes phosphorus).
    Structure: Unknown. Esters of sulphuric acid.
    Example: Cerebrosulphatid.

The anatomic term "myelin," introduced by Virchow,[6] and the rather indefinite protagon first mentioned by Liebreich[7] have been omitted from the above classification as not sufficiently well characterized chemically. The chemistry of the above groups is still in an unsatisfactory condition, but a considerable number of investigators are at present engaged on this subject. The biologic significance of the lipoids has also until recently been very much overshadowed by the greater interest in the proteins. The relative proportions in which the two groups occur in various tissues is shown by the illustration.

The fact that most tissues contain more protein than lipoids does not, however, argue for the relatively lesser importance of the latter group, for as will be shown presently, even the comparatively small quantity of lipoids in the erythrocyte have an important biologic function. The biologic rôle of the various lipoids will be considered under the headings as outlined in the table.

CHOLESTEROLS

Cholesterol, or to use the older less correct term, cholesterin, is familiar to everyone as a pearly white crystalline substance, which is found as the constituent of some gall-stones and can sometimes be observed in museum jars in which brains have been preserved in alcohol. Cholesterol by itself is probably of very little value to the organism, but in conjunction with the other lipoids, there is good reason to believe that it has an important function in adding stability to certain membranes. The very considerable quantity in which it occurs in the sheath of the medullated nerve fiber lends support to this suggestion. That it may serve a similar function in the stroma of the red blood-cell has been demonstrated to be probable by Ransom[8] who showed that saponin in producing hemolysis does so by interaction with cholesterin. K. Meyer[9] has lately suggested that the lecithin may also play a rôle in saponin hemolysis.



Proportion of protein (shaded) to lipoid (white) in different tissues. A, erythrocyte; B, striated muscle; C, heart muscle; D, kidney; E, liver; F, brain at birth; G, adult brain; H, corpus callosum.

The recent observations of Faust[10] that the hemolytic substance of the flat worm *Bothriocephalus* is a cholesterol oleic acid ester, is also of interest in this connection, on account of the significance which has been attached to this finding regarding the etiology of certain forms of pernicious anemia. The finding of hemolytic lipoids in cancer tissue may also be mentioned here, but the nature of the lipoid concerned has not yet been made out.

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* Read before the Pathological Society of Philadelphia, Dec. 8, 1910.

[1] Graham, T.: Phil. Tr. Roy. Soc. London, 1861, cli, part 1, p. 183.

[2] Noyes, A. A.: Jour. Am. Chem. Soc., 1905, xxvii, 85.

[3] Overton, E.: Studien über die Narkose, Jena, 1901, Gustav Fischer.

[4] Hoppe-Seyler. Med.-Chem. Untersuch. Tübingen, 1867, i, 215.

[5] Thudichum: Die chemische Konstitution des Gehirns des Menschen und der Tiere, 1901, F. Pietzcker, Tübingen. (See also for review of older French literature Chap. I.)

[6] Virchow, R.: Virchow's Arch. f. path. Anat., 1857, xii, 483.

[7] Liebreich: Ann. d. Chemie, 1864, xxix, 134.

[8] Ransom: Deutsch. med. Wchnschr., 1901, xxvii, 194.

[9] Meyer, K.: Beitr. z. chem. Physiol. u. Path., 1908, xi, 363.

[10] Faust, E. S.: Arch. f. exper. Path. u. Pharmakol., 1907, lvii, 367.

CEREBROSIDS

The principal member of this group, cerebrin, was first described by Müller.[11] The fact that the cerebrosids occur principally in medullated nerve fibers led Takaki[12] to investigate their possible relation to the ability of the tetanus toxin to follow a nerve trunk and thus reach the central nervous system from the periphery. The experiments, which consisted mainly in the study of the power of cerebrin and some of its derivatives to neutralize the toxic action of tetanus toxin, were not very conclusive.

Similar experiments with a greater variety of preparations were tried some years ago in cooperation with the late Dr. H. T. Ricketts. The variations were, however, within the variations to be expected in this kind of work and consequently were never published. The fact that this group contains galactose might suggest a nutritive function for the nerve fiber, if it were not such a common phenomenon to have the organism build up into structural elements and thus render useless as food. certain groups which might otherwise serve as sources of energy. The high carbohydrate content of the chitinous shells of certain crustaceans is a good illustration of this phenomenon.

THE PHOSPHATIDS

The phosphatids, so named by Thudichum,[5] usually appear as yellowish, waxy substances which show some tendency to crystallize when dry, but very quickly soften and lose this tendency when exposed to the air.

Exposure to the air also causes them to darken in color, so that old preparations may appear quite dark. The phosphatid with which we have been up to the present most familiar is lecithin. It was first carefully studied by Hoppe-Seyler[4] and found by him to be pretty generally distributed in all forms of protoplasm. The various subgroups into which the phosphatids have been divided for purposes of chemical study will not be here taken up, but the considerable variety of biologic phenomena will be considered in which this interesting group of lipoids appears to play a rôle.

Relation to Inorganic Salts.—The fact that in the extraction of a tissue with a fat solvent, the greater part of the ash constituents, especially the sodium and potassium, follow the phosphatids, and do not remain behind with the proteins to any appreciable extent, is of significance.

A protein after purification may retain an ash content of 0.5 and 1.0 per cent., but phosphatids will carry through such solvents as anhydrous ether an ash content ranging from 2 to 5 per cent.

The importance of this relationship is further illustrated by direct experiment. It is possible by precipitation reactions on colloidal solutions of lecithin to reproduce both qualitatively and quantitatively the antagonism between calcium chlorid and sodium chlorid observed by Loeb[13] on such living forms as starfish eggs or frogs' muscles. In the presence of sodium chlorid the amount of calcium required to cause a precipitate is materially increased. As the amount of sodium chlorid is increased, greater amounts of calcium are required; in other words, sodium chlorid antagonizes the calcium, an action which Mathews[14] has shown to be due to the chlorin ion.

Williams[15] has made the interesting observation that the increase in sodium chlorid, however, cannot be carried beyond that of a physiologic salt solution. As soon as the concentration exceeds this, the chlorin of the sodium chlorid can no longer antagonize the calcium, and the sodium now begins to aid the calcium in the process of precipitation.

The importance of a physiologic salt solution appears, then, to be not only to keep up the osmotic pressure, but also to keep the physical state of aggregation of the colloids at an optimum. It seems tempting to bring the phenomenon of chlorid retention in the tissues in certain diseases into relationship with changes in the colloids, which so change their state that this optimum is shifted and a higher concentration of sodium chlorid can still antagonize the calcium.

Relation to Hemolysis.—Hemolysis may be considered as a type of reaction in which a stroma or plasma membrane, which is considered by Overton to contain lipoids, undergoes changes of permeability as the result of variation in external conditions. Hemolysis is thus a special case of that larger type of biologic reactions of which plasmolysis in plant cells, cytolysis in animal cells, the fertilization of the egg cell and the phenomenon of bacteriolysis are further examples.

Hemolysis by cobra venom, according to Ehrlich, takes place as the result of the interaction of three factors—the amboceptor or cobra venom, the complement present in the serum and the receptor group in the corpuscle itself. Kyes[16] has made the very interesting observation that lecithin, which is itself not hemolytic, can enter into the reaction and behave like the complement. The reaction of cobra venom with lecithin was interpreted by Kyes as in the nature of a combination with the formation of a cobra lecithid. Manwaring,[17] in a recent repetition of this work, has come to the conclusion that the cobra lecithid of Kyes is a lecithin from which the oleic acid has been split off by a lipolytic ferment contained in the venom. The fact that the cobra lecithid, the product of the action of cobra venom on lecithin, is highly hemolytic, remains unaltered by this interpretation.

More recently Noguchi[18] has shown that in the Wassermann complement deviation reaction for syphilis, the antigen may be in the nature of a lipoid, which in its solubilities resembles the phosphatids.

Relation to Products of Tissue Metabolism.—Williams[15] has shown that lecithin may combine with and be altered in its state of physical aggregation by such tissue metabolites as ammonia and bile-salts, epinephrin, etc.

In the case of the epinephrin it has the power to protect this substance from oxidation. Thus a watery solution of epinephrin, which quickly oxidizes and loses its physiologic activity on standing, can in the presence of lecithin retain its activity for weeks, provided bacterial decomposition of the lecithin is avoided.

Relation to Drugs.—The theory of narcosis originated simultaneously by Overton[3] and by Meyer[19] was one of the first studies to call attention to the subject of the lipoids in relation to pharmacologic problems.

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[11] Müller, W.: Ann. d. Chemie, 1858, cv, 361.

[12] Takaki, K.: Beitr. z. chem. Physiol. u. Path., 1908, xi, 288.

[13] Loeb, J.: Am. Jour. Phys., 1902, vi, 411.

[14] Mathews, A. P.: Am. Jour. Phys., 1904-1905, x, xi, xii and xiv.

[15] Koch, W., and Williams, A. W.: Jour. Pharmacol. and Exper. Therap, 1911, ii, No. 3.

[16] Kyes, P.: Biochem. Ztschr., 1907, iv, 99.

[17] Manwaring, W. H.: Bull. Johns Hopkins Hosp., 1910, xxi, No. 234.

[18] Noguchi, H.: Jour. Exper. Med., January, 1911.

[19] Meyer, H.: Arch. f. Exper. Path. u. Pharmakol., 1901, xlvi, 338.

A glance at the illustration will show why a substance soluble in fats or lipoids should become largely localized in the nervous system, on the theory that a substance distributes itself between two solvents in proportion to its relative solubility in each.

The very marked affinity which the anesthetics and hypnotics possess for the nervous system is correlated with the high lipoid content of that tissue. The assumption that changes in the physical state of aggregation of the phosphatids, induced by the presence of the anesthetic, are responsible for the phenomenon of narcosis, was investigated by McLean[20] and found not to hold as far as the general phenomenon is concerned.

He did find, however, that chloroform changed the state of aggregation of lecithin, and presented evidences of chemical combination, while ether, alcohol and chloral did not. It seems more reasonable therefore to bring this phenomenon into relation with the well-known difference in the elimination of ether and chloroform and the consequent tendency of the latter to produce delayed poisoning.

An interesting clinical application of the theory of Overton and Meyer has recently been made by Graham.[21] On the basis that the nausea and vomiting following an operation are largely due to the excretion of the anesthetic into the stomach, he gives his patients pure olive oil. This absorbs the anesthetic and has so far been attended with very satisfactory results.

Overton also extended his theory to other drugs and suggested that the alkaloids may be taken into the nervous system by the lipoids. He does not give any experimental evidence. This has been supplied by Mostrom[22] in the case of strychnin in the following experiment:

The free alkaloid strychnin, which is only very slightly soluble in water, is shaken with water for one hour; 0.3 c.c. of the resulting filtered solution injected into a 40-gm. frog, requires thirty to forty minutes to produce tetanus. If instead of distilled water an emulsion of lecithin is used, a much larger quantity of strychnin goes into solution and tetanus now occurs in two or three minutes.

We see from this that the lecithin by combining with the strychnin is the means of bringing it into solution. We can conceive that the lecithin of the nervous system picks up the strychnin from the blood-stream in a similar fashion. Lecithin would be behaving, then, in this case as a chemoreceptor group in Ehrlich's interpretation of the term. The fact that the strychnin, when combined with this chemoreceptor group, can still exert its physiologic activity, is characteristic of this type of combination. If we were dealing with a toxin of the nature of tetanus toxin, which also has an affinity for the nervous system, the combination would be much less dissociable, and the toxin consequently not free to act. (The chemical nature of the receptor group for tetanus toxin has not yet been determined: see under cerebrosids.) This difference is dissociability between an alkaloid receptor combination and a toxin receptor combination is undoubtedly one of the reasons why all attempts to produce antiserums for alkaloids, as for instance morphin[23] have failed.

Relation to Problems of Specificity.—It is tempting to extend such observations as the above to the problem of the specific attraction which certain tissues have for certain drugs. An observation which has a bearing on this was made by Erlandsen[24] when he discovered a phosphatid to which he gave the name "cuorin," which occurred only in heart tissue and in no other type of muscular tissue. Whether or not such compounds can be brought into relation with such specific affinities of the tissues remains to be more carefully studied. The observation made by Pike[25] that the proportion of potassium to sodium is higher in kephalin (2 to 1) than in lecithin (2 to 8) may be interpreted as indicating a specific attraction of kephalin, as distinguished from other colloids, for potassium.

This observation has an important bearing on the ability of tissues to preserve a higher concentration of potassium than occurs in the surrounding fluids.

SULPHATIDS

This interesting class which occurs largely in the medullated nerve-fiber has only recently been obtained in a state approaching purity, and consequently very little studied biologically.

In concluding, then, it is interesting to note the considerable number of biologic phenomena in which the lipoids play a rôle. The only practical application which has come to the attention of the medical profession has been the attempt to exploit lecithin commercially as a brain and tissue food. The fallacy of this I have already pointed out in a previous article,[26] and it is to be hoped that such attempts will not detract from the interest which should attach to further work on the subject of the lipoids.

A REPORT ON THE THERAPEUTIC EFFICIENCY OF SALVARSAN

C. HUGH McKENNA, M.D.
Surgeon to St. Joseph's Hospital
CHICAGO

During the early part of September, 1910, I personally investigated Ehrlich's work in the treatment of syphilis with salvarsan. I have not made a report earlier, first, because I wished to make some observation of the results obtained by physicians in this country, and to acquire some experience in using the remedy in my own work; and second, because I believed that it would be dangerous to permit the idea to become general that a single dose of salvarsan would permanently cure syphilis.

My own experience with salvarsan, and the observations I have made of this work carried on both in this country and in Europe, lead me to the conviction that under no circumstances should it be used without also using mercury or the iodids. If we can conceive of making a diagnosis of syphilis so early that not a single spirochete has become encapsulated, but all lie free in the circulation, then we might entertain the theory of a single injection of salvarsan destroying completely the invading organisms.

The question naturally arises: What is the rôle of this new treatment, and what is its real merit?

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[20] Koch, W., and McLean, F. C.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No 3.

[21] Graham, Evarts A.: Olive Oil for Postanesthetic Anesthesia, The Journal A. M. A., Dec. 18, 1909, p. 2094.

[22] Koch, W., and Mostrom, H. J.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.

[23] Cloetta, M.: Arch. f. Exper. Path. u. Pharmacol., l, 453.

[24] Erlandsen, A.: Ztschr. f. physiol. Chem., 1907, li, 71.

[25] Koch, W., and Pike, F. H.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.

[26] Koch, W.: Phosphorus Compounds as Brain Foods, The Journal A. M. A., May 1, 1909, p. 1381.

Experience in the treatment of syphilis with the preparation appears to be sufficient at this time to warrant the statement that it is the therapy of election in the following stages of the disease:

1. With the appearance of the chancre, or sooner, if an absolute diagnosis can be made, with the hope that this remedy may reduce to a minimum the possibility of general contamination during this stage of the disease.
2. In all affections of the mouth, throat and mucous membrane of the nose.
3. In the class of obstinate cases with cutaneous lesions that do not yield to mercury or the iodids.
4. In all cases of gummata.
5. In those affections of the central nervous system in which the spirochete may remain as the exciting element.
6. In congenital syphilis.
7. In the galloping syphilis of Unna.

Of course it is understood that before salvarsan is used in any case the tenets of Ehrlich should be fulfilled—that is, that the patient be kept under observation in a hospital for four days, where a careful record of his physical condition may be made, particular attention being paid to the condition of the heart, kidneys, eyes and ears. In other words, aside from the syphilitic taint, the patient must be in a healthy condition. The fatalities and serious complications have occurred in patients with lesions other than those due to syphilis.

Ehrlich's studies led him to believe that parasites can be destroyed only by substances to which they have a certain relation, which substances he designated as "parasitotropes." Poisons which have relations to essential organs he termed "organotropes." Ehrlich pointed out that only such substances can be used as remedies in which organotropy and parasitotropy have a right relation. This investigation led to the conclusion that when a parasitotrope was injected into the host either the invading organisms were immediately killed, or if any organisms lived through this form of treatment they were rendered tolerant to subsequent injections of this substance.

Consequently the early treatment of syphilis by the injection of salvarsan was based on the above theory. It seems difficult to conceive a condition in any stage of syphilis in which every single spirochete was free in the circulation at the same time. One can scarcely reconcile this condition even at the moment of reception of the spirochete into the host because of Nature's ability to wall off invading organisms; yet it is just possible that a complete extirpation of the spirochetes might be accomplished in this way, if the diagnosis of syphilis could be made early enough. It does not seem as though the disease could be recognized early enough to make the hope of having an absolute cure of syphilis from a single injection of salvarsan a well-grounded one.

The determination of the immediate efficiency of this form of treatment is based on the Wassermann reaction becoming negative within a reasonable length of time after the injection, usually in about five weeks. An idea of the efficiency of salvarsan can best be given by recording a brief summary of the results of the Wassermann test in some of the clinics in which this treatment was first carried out.

The following compilation of results is made from a recent report from Dr. Ehrlich, entitled, "Die Salvantherapie: Rückblicke und Ausblicke":

1. In the Weintraud Klinik, 124 *patients in the* second and third stages of syphilis were all Wassermann-positive before treatment. After a single injection of salvarsan fifty-seven became negative, while sixty-seven remained positive. Weintraud was of the opinion that by systematic reinjections it is possible to bring the percentage of Wassermann-negative cases to 90 per cent.; then by the use of mercury to bring about a negative Wassermann in the remaining 10 per cent. of cases.

2. Gennerich[1] treated 81 patients with severe cases and produced a negative Wassermann in all but three cases.

3. Schreiber, Magdeburg, succeeded in producing a very high percentage of Wassermann-negative conditions by a repetition of the injection.

4. Fabry-Dortmund, with the alkaline solution introduced by the intramuscular method, had only six recurrences out of 385 patients treated.

5. Dr. Schulz, Strassburg, by the subcutaneous method, had four recurrences out of sixty-three cases. Two of these returns were due to a gangrenous condition at the site of the injection, which necessitated incision and drainage. All four became Wassermann-negative in a short time, after being treated by the intravenous method.

6. In this country, Murphy, of Chicago, has had an extensive experience in the use of salvarsan. Out of 100 patients treated by the "suprafascial" method, he has had one bad result, which was due to an encapsulation and lack of absorption of the mixture at the site of the injection, that had to be opened and drained. The suprafascial method introduced by Murphy is as follows:

The needle is inserted at the level of the tenth rib, and at a point one and one-half inches from the median line posteriorly. The needle is directed outward and downward parallel to the tenth rib reaching to the fascia overlying the loins, and the mixture is deposited on the fascia.

Another point of much importance to decide in this connection is the safest and most efficient method of administration. Of the various methods used, only two need be considered, viz., the intramuscular (including the suprafascial), and the intravenous. A solution of this problem can best be reached by presenting a brief résumé of the results obtained by some of the most experienced and accurate workers.

The following is a translation of an extract from a letter just received from Dr. Ehrlich, under date of Frankfort a/M., 4 Feb., 1911:

"I should like to remark that I, as you well know, am much in favor of the intravenous injection, and that preferably this should be repeated two or three times in very early cases (the second stage), as Weintraud does in Wiesbaden. He makes an intravenous injection three times within four or five weeks, using 0.4, or at most 0.5 in men, and the result is that in over 90 per cent. of cases the Wassermann reaction is negative."[2]

The results reached, as already cited, by Fabry-Dortmund in a large experience with the intramuscular method, and by many other workers of large experience who use this method of administration, and those of Murphy of Chicago by the suprafascial method, should prove conclusively that the extravenous methods are efficient. Whether this efficiency reaches the same degree as that of the intravenous I cannot say. On the other hand, I can state most emphatically that the latter method is much more dangerous, and while this danger may be reduced to a minimum by scientific management and the experience in technic possessed by the operator, still there is an element of danger over which experience exerts no influence, viz., the possibility that this arsenical preparation undergoes a chemical change when introduced into the direct circulation, which at times may have a deleterious or even fatal effect.

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[1] Berl. klin. Wchnschr., 1910, No. 46.

[2] "Ich möchte mir noch die Bemerkung erlauben, dass ich, wie Sie wohl wissen, sehr für die intravenöse Injection bin und dass diese zumal bei ganz frischen Erkrankungen (Syphilis II), am besten 2-3 Mal widerholt wird, wie dies Weintraud in Wiesbaden tut. Er injiziert innerhalb 4-5 Wochen 3 Mal intravenös, Männern 0.4 bis höchstens 0.5 und erreicht, damit dass in weit über 90% der Wassermann negative wird."

Since all operations or methods of therapy have as a purpose, first, the saving of life, and second, efficiency, it would seem most rational to conclude by strongly recommending the administration of salvarsan by the extravenous methods, viz., the intramuscular and the suprafascial, and in those cases proving refractive to this mode of treatment, readministering it by the intravenous method.

My own experience in the administration of salvarsan has been by the extravenous methods, both the intramuscular and the suprafascial. Sufficient time has not elapsed to make a complete report on these cases; however, I wish to state that there have been no complications and the patients have experienced very little distress after this form of administration. From a clinical point of view they show evidence of a subsidence of the disease.

CONCLUSIONS

1. The medical profession should use every effort possible to eradicate the idea that appears to have become prevalent in the minds of the laity, and, indeed, of many of the profession, that a single dose of salvarsan will permanently cure syphilis.

2. Salvarsan should be administered under the best scientific conditions possible, which means that no patients should be treated until they have been in a hospital four days and careful records made of their physical condition. Only patients in a healthy condition, aside from the syphilitic taint, should receive this form of treatment. Any attempt to treat patients when these precautions have not been taken, or any unscientific use of the preparation, should be strongly opposed by the profession, as these attempts are sure to result disastrously to the patient and also to detract from the merits of the remedy.

3. Salvarsan is the treatment of election in the conditions of syphilis enumerated in this paper, but under all circumstances should be followed by mercury or the iodids, or by both.

4. Administration by the intramuscular or suprafascial route should first be instituted, as it is the safest method, and in the event of the patient not becoming Wassermann-negative, it is then time enough to employ the more dangerous intravenous method.

100 State Street.

Intestinal Anastomosis.—The various instruments and appliances formerly used to facilitate work on the intestines have nearly all been discarded for the simple but efficient method of intestinal anastomosis by thread and needle. The general condition of the patient should be as near par as is consistent with the exigencies of the case. All organs should functionate properly and the temperature and blood should be about normal, to obtain the maximum results in surgical work on the intestines. The work should be carefully but rapidly performed, which is oftener the case when the surgeon has from practice or experimental work on the lower animals become skilful in the use of needle and thread. A positive blood-supply to the tissues making up the anastomosis is necessary. The end-to-end method is not so certain, therefore the side-to-side anastomosis should be chosen whenever convenient. A. E. Benjamin, in *Lancet-Clinic.*

A CASE OF HEMATOSALPINX WITH CERVICAL ATRESIA

J. R. B. BRANCH, M.D.
Attending Gynecologist, Macon Hospital
MACON, GA.

Patient.—N. H., aged 15, white, schoolgirl, was eldest of three children, complained of pain in the left lower abdominal quadrant with nausea and vomiting.

Family History.—This was unimportant. The mother menstruated at eleven.

Personal History.—Birth was normal. The history was taken after the operation. General health had never been good. During childhood the girl had measles, mumps, whooping-cough, chicken-pox, diphtheria, scarlet fever, chorea and one attack of "slow fever" lasting a week, with severe headache and delirium. She had always been nervous and delicate. Appetite was somewhat inordinate, and she craved unusual and unreasonable foods; digestion was good. There was no nausea or vomiting except during the attacks. Bowels usually moved every day. The urinary condition seemed to have been normal up to present illness, during which she suffered severe dysuria. Following diphtheria and scarlet fever at the ages of 5 and 6, patient had a troublesome white discharge (leukorrhea) irritating but not malodorous. Although 15 years old, the patient had never menstruated. Four years ago her mother noticed that she was unusually nervous, with dark circles under her eyes, and had headache and nausea, and thought that menstruation was about to begin; no flow ever appeared. In February, 1907, following such a train of symptoms as just mentioned, the patient had a sudden severe attack of pain in the right lower abdominal quadrant, associated with nausea and vomiting, lasting three or four days. Each month since, the girl has had headache with dark circles under her eyes. Never has there been a drop of menstrual flow. Similar attacks to the one in February, 1907, occurred in February, 1908, February and June, 1909, and June 12, 1910, the present one.

Present Illness.—Three days before consulting me, the patient began having a dull aching pain, sometimes sharp in character, in the left lower abdominal quadrant. It grew steadily worse and was so severe next day that nausea and vomiting set in. The pain became general and the right side was involved. She was not constipated.

Physical Examination.—Patient was an emergency case, and came to the hospital suffering severe pain in both lower abdominal quadrants. She looked ill. Pulse was 120, respiration 26, temperature 102.4 F., by rectum. The abdomen was rigid, and there was general resistance and tenderness, palpation being most painful in the left lower quadrant. A mass was distinctly felt in the right iliac fossa.

Diagnosis.—A diagnosis of appendix abscess was made.

Operation.—A small gridiron incision was made in McBurney's region. On opening the peritoneum, dark bloody fluid welled out. The examining finger encountered a smooth, elastic, crepitating mass, filling the right iliac fossa and extending to the median line. In appearance the mass was lobulated, and of dark bloody color. As it was impossible to deliver it through the small incision, an opening was made in the median line. The mass proved to be a large left-sided hematosalpinx, with twisted pedicles, containing 8 or 10 ounces of blood-clot. The tube at the cornu measured from 1 to 1.5 cm. in diameter; the ovary could not be distinguished from the mass. It was tied off with catgut and removed. The right tube and ovary were found lying in the cul-de-sac; the tube was dilated slightly, and the ovary enlarged and cystic, measuring 8 or 9 cm. by 4 cm. Both were removed. The uterus was normal. After cleaning out the small amount of dark bloody fluid the abdomen was closed in layers. The appendix was not seen.

Postoperative Notes.—Aside from inability to void urine for five days after the operation, the patient made an uneventful recovery. Temperature reached normal on the fifth day, never being over 101 F. The pulse dropped to 80 on the fifth day. Before discharge from hospital a vaginal examination was made, using a cystoscope. The vulva was normal, the vagina narrow, measuring 9 cm. from a normal hymen to the cervix. There was a white thick leukorrheal discharge. The cervix was flush with the vaginal vault, completely closed, and the os marked with a dimple.

The case was one of cervical atresia, probably caused by the diphtheria or scarlet fever during childhood. The amenorrhea was the result of obstruction and the menstrual flow had accumulated in the tube. The patient, six months after operation, is in perfect health but has not menstruated.

I am indebted to Dr. K. P. Moore for allowing me to report this case, which came under his care in the Macon Hospital.

ARRESTED DEVELOPMENT OF ABDOMINAL PARIETES

ASSOCIATED WITH SHORTENED UMBILICAL CORD

A. G. WILCOX, M.D.
SOLON SPRINGS, WIS.

History.—The mother was a strong, healthy woman, Danish, aged 26, a teacher before marriage, and gave no history of uterine or pelvic troubles. No known relatives have been deformed. It was a first labor and a midwife was in attendance for about twenty-four hours. When I arrived I found the position to be R. O. P. The cervix was dilated to about 5 cm. Mother and fetus were apparently normal. Uterine inertia and powerful uterine contractions alternated for the next five hours without dilating the cervix to any extent. Chloroform was then given, the cervix dilated manually and high forceps applied. After each pull on the forceps, the head sprang back to its original place as if pulled on by elastic band. There was considerable hemorrhage between and during the efforts at traction. After about one hour the head reached the vulva; a pair of hemostats was clamped on the cord and the cord cut. The child was then delivered with ease. The placenta was immediately removed by the hand placed in the uterus. It was attached on the anterior superior part of the interior of the fundus.

Examination of Child.—The child was a female weighing 8½ pounds. A thin semitransparent membrane about the thickness of tissue paper extended from the xiphoid cartilage to one inch below the umbilicus. This membrane was elliptical in shape and about four inches across the broadest part. The abdominal organs—liver, spleen, stomach, and intestines—could be easily seen through this membrane.

The umbilical cord was 12 cm. (5 in.) long and 0.6 cm. (¼ in.) in diameter and lacking in the usual spiral windings. The greatly diminished diameter of the cord and lack of windings give one the impression that the cord was even shorter than 5 inches, its present length; but during the latter months of pregnancy had been elongated at the expense of diameter by the tension of the fetal weight and movements. The specific gravity of the fetus is always greater than that of the amniotic fluid; hence, with a cord suspended from the fundus of the uterus and not long enough to allow the fetus to reach the opposite extremity of the uterus, there would be tension on the cord. (In this case the uterus was 12 inches and cord only 5 inches.)

Operation.—At end of fourteen hours a red line extended all around the border of the membranous part of the abdominal parietes of the child. Chloroform was given, the membrane dissected off and the abdominal walls brought together, with through-and-through silkworm sutures. The umbilical vein was tied and cut under the liver. The urachus was patent from the bladder to the umbilicus. The urachus was closed by suture. A small Meckel's diverticulum was present and left untouched. Considerable difficulty was experienced in pulling the abdominal walls together over the liver and in replacing the intestines. The time of operation was one and a half hours. The baby left the operating table in fair condition, but died eight hours later.

Fourteen and a half months later the same woman gave birth to a healthy eight and a half pound boy. This second labor was normal, a L. O. A. position, and there was no deformity of child or cord.

This case emphasizes the fact that an abnormal position or presentation of a fetus should always cause us to suspect and search for some abnormality of fetus or mother's pelvis before considering it a mere chance abnormality. Most faulty presentations and positions have an ascertainable cause other than chance. In this case the presentation was cephalic:

1. Because the fetus was suspended by the short cord from the fundus of the uterus, and the cephalic end (from head to umbilicus) being longer than the caudal end (from umbilicus to coccyx) gravitated to the bottom of the uterus. Also the distance from sacrum to umbilicus is not long enough to allow the sacrum to reach the cervix, when the fetus is suspended on a five-inch cord.
2. The position was posterior, because in this position, with the placenta on the upper, anterior surface of the uterus, the short cord would reach furthest. In order to have allowed for an anterior position, with the placenta in this position, the cord would have had to wind around the fetus from umbilicus to back, which would have taken up so much of its length that the head could not have reached the cervix.
3. Hemorrhage during and between efforts at traction on the forceps was due to pulling on the placenta, causing some separation thereof.
4. Recoil of the head after traction on the forceps was due to the uterus assuming its original shape.
5. The fact that the head could be dragged to the vulva by the forceps with such a short cord was due to a partial inversion of the uterus during traction.
6. Uterine inertia was due to inability of the uterus to expel the child.
7. The statement of the midwife, if a correct observation, that the patient carried the child high in the abdomen and that there was no descent of the head until labor began, is also explained by the short cord.

A CASE OF SO-CALLED BOTTLE-MAKER'S CATARACT *

ROBERT VON DER HEYDT, M.D.
CHICAGO

Cases of bottle-maker's (often called glass-blower's) cataract, supposed to be due to prolonged exposure to excessive heat and bright light, are rarely seen except in localities where the industries that produce these changes are situated. This case is interesting on account of its occurring in one who has been a baker for many years, subjected daily to the continued high temperature of the bake-room.

History.—J. W., aged 41, has been working steadily as a baker for twenty-four years past. His sight, so he says, was always good. Three years ago he began to notice a gradual failure of vision, and now he cannot read the newspaper. He had not consulted anyone until Nov. 10, 1910, when I first saw him at my office.

Examination.—Vision, right eye, 15/80; left eye, 15/200; no improvement with glasses; urine negative for sugar and albumin; no signs of other intra-ocular disease. The lenses are absolutely clear, except in the posterior cortical zone, where there is situated a slightly irregular disk of opacity—half the size of the lens. The disk, especially by direct focal illumination, can be seen to have a well-defined and somewhat thickened, irregular border. Slight hazy opacities can be seen in the center of the disk, and the same to a less degree outside of same in the posterior cortical plane of the lens.

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* Read and patient exhibited before the Chicago Ophthalmological Society, Dec. 19, 1910.

That this case is exactly similar in type to glass-blower's cataract is proved by the words of Herbert Parsons and Marcus Gunn, who, in 1908, visited some of the important glass-works in England for the Royal Society, to gather statistics of industrial diseases for the framing of the Workmen's Compensation Act. They say:

> Bottle-makers are subject to a form of cataract which appears to be characteristic, and is unlike other forms of cataract commonly observed. In its typical form there is a dense, well-defined disk of opacity in the center of the posterior cortex. Not infrequently slighter hazy opacities are seen around this posterior cortical disk.

Hirschberg describes it in a similar way, and in 1898 exhibited five cases of glass-blower's cataract. At the same time he drew attention to the peculiar color of the faces—the effect of heat on the skin. Most of the German literature on the subject seems to concede that heat is the factor that produces these changes in the lens and skin.

Weyl* mentions fire-workers, blacksmiths, puddlers, bakers and cooks as subject to this same change in the lens.

In a volume on industrial diseases, 1909, Greer says of bottle-maker's cataract: "It commences as a saucer-shaped opacity like a cobweb in appearance, and situated immediately within the posterior capsule of the lens."

The treatment which I am using is the method of von Pflugk and Verderau—instillations of 2 per cent. solution of potassium iodid, to be followed later by subconjunctival injections of the same. According to Hirschberg, these cases progress very slowly until 20/200 vision has been reached, when often a more rapid decline follows. When ready for operation they present a most favorable type for successful extraction.

34 Washington Street.

THE DIAGNOSTIC VALUE OF THE PARADOXIC REFLEX

AN ADDITIONAL ANATOMIC PROOF OF ITS PRACTICAL IMPORTANCE

ALFRED GORDON, M.D.
PHILADELPHIA

In December, 1904, I described[1] a new reflex under the name of paradoxic flexor reflex. I found it then present in cases the history of which pointed to organic diseases of the nervous system and especially of its motor tracts, and always associated with exaggerated knee-jerks. As is well known, Babinski's toe phenomenon is the clinical expression of a disease of the motor pathway.

The reflex can be elicited in the following manner: The patient may either lie on his back or sit on a chair with the feet (not the legs) on a stool. The feet must be slightly rotated externally; in this position complete relaxation of the muscles of the leg is obtained. The examiner must always place himself at the outer side of the leg; the thenar and hypothenar muscles of the right hand must be placed on the inner surface of the tibia of the patient and the fingers press deeply on the middle or the lower portion of the calf muscles. I say "deeply" because the pressure must be transmitted to the flexor muscles of the deep layer; sometimes pressure must be combined with lateral movements of the superficial muscles. If the reflex is present, extension of the great toe, or of all the toes, will be noticed. There is evidently no other muscle except the flexors that could be brought into display. The tibialis posticus, the peronei have an entirely different function from flexion or extension of the toes.

During my investigations I observed a peculiar relationship between these two reflexes. Babinski's sign was sometimes present and sometimes absent, but in the majority of my cases the paradoxic reflex was present on the side on which the Babinski sign was either absent or slight. It was present in those obscure cases in which the Babinski reflex was not obtainable.

My first series comprised thirty organic cases, in nineteen of which I observed that Babinski's sign and the paradoxic reflex showed a tendency to replace each other; viz., when one was slight, the other was marked and *vice versa*. There was a species of antagonism between the two reflexes.

My observations at the time of the first report were purely clinical. I had no anatomic proof to offer.

In December, 1908, I made a second report to the Philadelphia Neurological Society on fifty-eight cases. The diseases in which the reflex was studied were as follows: transverse myelitis, amyotrophic lateral sclerosis, hemiplegia, Jacksonian epilepsy, disseminated sclerosis, cerebrospinal syphilis and essential epilepsy. Here again I observed the same antagonism between the Babinski and paradoxic reflexes, viz., when one was present and pronounced, the other was absent; when one was mild, the other was pronounced. The latter fact was particularly conspicuous in seven cases of transverse myelitis: at first Babinski's sign was absent on one or both sides and the paradoxic reflex was present; two or three months later Babinski's sign made its appearance, and the paradoxic reflex completely disappeared or was faintly present. In one case of cerebrospinal syphilis in which the spinal symptoms were the most conspicuous, energetic mercurial treatment was instituted. The patient's mental functions, the ataxia and sphincters improved considerably. The knee-jerks, however, remained markedly exaggerated; ankle-clonus was present on one side, but Babinski's sign disappeared on one side and was only slightly preserved on the other; the paradoxic reflex remained intact and was easily obtainable.

As another illustration of the antagonistic relationship of the two reflexes may be mentioned six cases of Jacksonian epilepsy of the same series. In all there was paresis on the same side. When the examination was made immediately or shortly after the attacks, the knee-jerk was exaggerated on the affected side and the paradoxic reflex was easily elicited in all the cases, while Babinski's sign was in three cases only slightly present and in two others absent.

An analysis of all the facts observed and followed up led me to the conclusion that the paradoxic reflex is a valuable sign for diagnostic purposes at the beginning of an organic affection showing that the motor tract is being irritated; while Babinski's sign is of *inestimable* value in cases of a well-established *lesion of the motor* tract, the paradoxic reflex is a sign, to say the least, of a transient irritation or of a slight lesion of the same tract.

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* Weyl: Handbuch der Arbeiterkrankheiten, 1908.

[1] Am. Med., 1904, viii, 971.

That a transient irritation may be the cause of the reflex can be seen among other facts, especially from the following case:

Case 1.—A lad of 12, in the course of typhoid fever, developed meningeal symptoms. He then had an attack of epileptiform convulsions on the right side which were followed by paralytic symptoms on the same side. I had an opportunity to examine him twice at an interval of two weeks. On both occasions the right knee-jerk was markedly exaggerated, there was no ankle-clonus and no Babinski sign, but the paradoxic reflex was present and easily elicited. The patient made a complete recovery; the paralytic symptoms, the increased knee-jerk and the paradoxic reflex disappeared.

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From the clinical standpoint the diagnostic value of the paradoxic reflex appeared therefore to be established; it remained for me to corroborate it by anatomic proofs. That is to say, it was necessary to show that a real anatomic lesion was present in those cases in which during life the paradoxic reflex was the only or the most conspicuous sign and in which operative procedures were undertaken for this reason with satisfactory results so far as the finding of the lesion is concerned. Soon such opportunities presented themselves.

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Treatment.—After the patient was placed in the Northwestern General Hospital his mental condition began to improve and the aphasia gradually disappeared. Both the paradoxic reflex and the slightly increased knee-jerk persisted with the greatest obstinacy and at no time could either Babinski or Oppenheim sign be elicited. The condition, in my opinion, therefore, indicated an involvement of the left motor area, probably only an irritation, but not a distinct lesion, in view of the absence of Babinski's sign. I advised an operation over the injured region of the scalp. Before operating an *x*-ray picture was taken, and a distinct involvement of the bony tissue was detected on the skiagraph. Dr. J. Thompson Schell performed an osteoplastic operation. The upper half of the Rolandic area, including the lacerated region, was exposed. A small fragment of the inner table of the skull was found imbedded in the dura, producing a subdural hemorrhage lying over the uppermost portion of the left motor area. The outer surface of the skull was intact. The opening of the lacerated dura was enlarged, the coagulated blood removed and the cortex exposed. The latter's surface was found intact; no laceration could be seen.

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This case, I believe, is the most striking illustration of my contention concerning the practical value of the reflex. Added to the first two cases published in 1906 and 1907,[3] it furnishes decisive anatomic proofs for the *a priori* deductions made from clinical observations. The reflex has its diagnostic value and deserves a place in nosology of the nervous system.

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Parsons[1] states that after exposure of the lens fibers to the action of the aqueous they swell up, become opaque, protrude through the capsular wound, and finally break up in the usual manner, absorption being largely due to the leukocytes, which become swollen and filled with granules.

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De Schweinitz[5] says that the opacity and liquefaction are explained by the action of the sodium chlorid of the aqueous on the globulin of the lens substance, as globulin is normally soluble in weak sodium chlorid solution. This theory was, I think, first suggested by Marcus Gunn in 1899 in the *Ophthalmic Review.*

In further search of the literature on the subject I have found no elaboration.

In order to understand the subject it is necessary to have a knowledge of the chemistry of both the aqueous and the crystalline lens.

Halliburton gives the composition of calves' aqueous as in Table 1.

TABLE 1.—COMPOSITION OF THE AQUEOUS

Water			986.87
Solids			13.13
Albumin		1.12	
Extractives		4.21	
Inorganic salts		7.70	
Sodium chlorid	6.89		

Thus it will be seen that it consists practically of normal saline solution with a trace of albumin and extractives.

The composition of the lens as given by Neumeister is set forth in Table 2.

TABLE 2.—COMPOSITION OF THE LENS

			Per cent.
Water			63.50
Solids			36.50
Albumins		35.00	
Insoluble albuminoids	17.00		
Crystalline (b)	11.00		
Crystalline (a)	6.80		
Albumin	0.20		
Fats		.29	
Lecithin		.23	
Cholesterin		.22	
Salts		.80	

It will be seen that the lens contains 35 per cent. of protein, the highest protein percentage of any tissue of the body. Of this 35 per cent. protein, 17 per cent. is in the form of an insoluble albuminoid which is insoluble in normal saline or water.

It is a true albumin and constitutes most of the lens fibers, its amount increasing from without inward in accordance with the increasing age of the lens fibers. The remaining protein consists of a small amount of serum albumin and two vitellins which are soluble in dilute saline or in water.

If these analyses are correct, we have great difficulties in explaining the foregoing theories.

I can hardly agree with Parsons' statement that most of these fibers are carried off by the leukocytes. In the first place, if there is no infection there should not be many polymorphonuclear leukocytes about, as they occur chiefly in inflammatory troubles; and secondly, it would not explain the traumatic cataract with absorption in those cases of concussion without rupture of the capsule.

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De Schweinitz's promulgation of Marcus Gunn's suggestion is, if the chemistry be correct, entirely untenable. To be sure the (a) and (b) crystalline bodies would be dissolved out either by water or the aqueous, but the insoluble albuminoid which makes up the greater portion of the protein, and which occurs chiefly in the lens fibers, is insoluble in either the water or the saline.

It is easily seen from a study of the chemistry of the lens why it becomes opaque either after injury with the entrance of aqueous or even from concussion. In case of rupture of the capsule and entrance of the aqueous there would occur an immediate precipitation of this insoluble albuminoid, while the remaining portions

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would be soluble and could be carried off by the circulation of the aqueous. In cases of concussion without rupture of the capsule, there undoubtedly occurs some rupture of the lens fibers, and then this insoluble albuminoid is brought into contact with the lens lymph which acts in the same manner as the aqueous in precipitating the albuminoid.

But what is the factor which causes the solution of this albuminoid so that it can pass off in the circulation?

As we have known for several years that most of the organs and tissues of the body show autolytic activity under favorable conditions, we believe that this autolytic action also takes place in the lens substance after the rupture and breaking up of the lens fibers. There is also quite a possibility that there is some ferment in the aqueous which hastens this action. It is more probable, however, that the aqueous serves its chief purpose in carrying off the liquefied lens substance. Therefore, in order either to prove or to disprove our theories, the following experiments were carried out, using calves' eyes as the working material. They were enucleated at the abattoir and transported immediately to the laboratory and kept on ice until used, which was always within six hours after enucleation.

Nov. 1, 1909, I received thirty calves' eyes and drew off the aqueous with a sterile hypodermic needle. The lenses were removed and macerated, then diluted with normal saline solution, so as to make a dilute solution of lens albumin of about 1 per cent. This was agitated so as to make as nearly a homogeneous suspension of the insoluble portions as possible, and 5 c.c. were measured into three test-tubes. To the first were added 5 c.c. of the aqueous solution. To the second were added 5 c.c. of the boiled aqueous. To the third were added 5 c.c. of normal saline solution. These were stoppered tightly and placed in an incubator at 36 C. and allowed to remain for twenty-two days.

Chloroform and toluol were added to prevent bacterial action. They were then removed and the amount of soluble nitrogen was determined in each tube. They were precipitated by the action of heat and acetic acid, filtered and washed, and the amount of nitrogen determined in the filtrate by Kjeldahl's method, which consists of digesting with concentrated sulphuric acid and copper sulphate and distilling the remains, after rendering strongly alkaline, into a measured amount of tenth-normal sulphuric acid and titrating the excess of the acid.

By this procedure I obtained the results shown in Table 3.

TABLE 3

No. 1.—5 c.c. lens albumin
5 c.c. aqueous
= 2.1675 c.c. N/10 H_2SO_4
No. 2.—5 c.c. lens albumin
5 c.c. boiled aqueous
= 1.9675 c.c. N/10 H_2SO_4
No. 3.—5 c.c. lens albumin
5 c.c. normal salt
= 0.8175 c.c. N/10 H_2SO_4

By this experiment it appears that the boiling of the aqueous has some inhibitory effect on its action on the lens albumin. It also appears that the aqueous either increases this process, or at least hastens it, because as will be seen, there is over twice as much soluble nitrogen in No. 1, which was combined with the unboiled aqueous, as in No. 3, in which there was only salt solution.

On account of lack of aqueous these experiments were not done with a control, so that the results are open to more criticism than they would otherwise be. All other experiments along similar lines with equal quantities of lens and aqueous were spoiled so that I lack confirmatory evidence, which I hope I shall be able to supply shortly.

Nov. 8, 1909, I started another series in the following manner:

Twenty calves' lenses were macerated with the accompanying aqueous, 15 c.c., and the whole made up to 500 c.c. with normal salt solution. Chloroform and toluol were added to prevent bacterial changes.

The preparation was then placed in a tightly stoppered flask and set in an incubator at 36 C., a measured amount being removed from time to time and the soluble nitrogen being determined by precipitating with heat and acetic acid and doing the Kjeldahl test on the filtrates as in the preceding experiment, with results given in Table 4.

TABLE 4.—VARIATIONS IN SOLUBLE NITROGEN AS DETERMINED BY HEAT AND ACETIC ACID

Date	N/10 H_2SO_4, c.c. Required by Soluble Nitrogen in 100 c.c.
11/ 8/09	4.8000
11/16/09	2.6750
11/23/09	3.5875
11/30/09	4.3375
12/ 7/09	3.9625
12/15/09	3.8375
1/ 5/10	4.0875
2/17/10	5.9625
3/17/10	5.8375
5/23/10	8.1175
10/25/10	8.9125

The autolytic material was now set at room temperature until October 25.

As will be seen by a glance at these figures there was a considerable lessening of the soluble nitrogen immediately after starting the process, after which, with practically one exception, a gradual rise until the quantity was nearly twice that of the original amount.

This initial decrease could be explained by the possibility of a reversible action of the ferment and a building up instead of a tearing down, as is seen in some other instances in physiologic chemistry, notably some of the fat ferments.

The influence of the small amount of aqueous in this experiment was, I believe, almost *nil*, as I will show in the following experiment a similar picture without the presence of any aqueous.

Nov. 18, 1909, twenty calves' lenses were macerated and made up to 500 c.c. with normal saline solution. Chloroform and toluol were added and placed in an incubator at 36 C., being placed in a tightly stoppered flask to prevent evaporation; 20 c.c. was removed from time to time and the precipitable protein removed by Abeles' method, which is as follows:

Fifty c.c. of absolute alcohol, 2.5 gm. zinc acetate, and 50 c.c. of the fluid are mixed and allowed to stand ten minutes and then filtered through a filter moistened with alcohol; the residue is rubbed up in a mortar several times and filtered; the zinc is precipitated with 20 per cent. sodium carbonate solution; this is filtered, acidulated with acetic acid, evaporated and a Kjeldahl test done on the filtrate.

This method is claimed to give more accurate results than the heat and acetic acid method. By the use of this method I obtained the following results:

TABLE 5.—VARIATIONS IN SOLUBLE NITROGEN BY ABELES' METHOD

Date	N/10 H_2SO_4, c.c. Required by Soluble Nitrogen in 100 c.c.
11/18/09	1.8375
11/22/09	2.5875
11/29/09	2.4625
12/ 6/09	2.5875
12/14/09	2.3275
1/ 3/10	2.4625
2/14/10	3.4625
3/17/10	4.4625
5/23/10	7.3675
10/20/10	7.3675

Set at room temperature until October 20.

In this and the preceding series, double estimations were made and when there was a variation the average of the results were taken.

It will be seen, as in the preceding experiment, that there was very little change for the first three months and then there was such a pronounced change that one could hardly believe it to be accidental.

Here, as in the preceding series, there was little or no action while the material was at room temperature, from May to October, 1910.

Whether this was due to the slightly lowered temperature I cannot say. Neither can I say whether the increase in soluble nitrogen would have continued, as I had insufficient material to continue the experiment.

The tryptophan reaction was negative in both of these last experiments, on Dec. 11, 1910, showing that there was no very active ferment at work which would split up the amido-acids. Both preparations were tested for bacterial growth Dec. 12, 1910, by inoculating slant agar, with negative results.

If further investigation confirms my preliminary findings, then I think that it is safe to say that when the lens fibers are broken up they undergo autolytic changes. Whether this is increased by the action of some specific enzyme in the aqueous or whether it is due entirely to autolysis, it is difficult to say. If this be a ferment, then what is its source? Is it produced through the breaking up of the lens fibers, or is it derived from the circulating lymph? These questions I cannot answer.

These results coincide nicely with the facts as we know them. The lens of the young is much more easily liquefied and carried off, from the fact that there is less of the insoluble albuminoid present and the enzymes are all very active. In the aged, on the contrary, there is a much larger amount of the insoluble portion and all of the enzymes are relatively weak.

In closing I wish to thank Dr. E. L. Whitney for his many kind suggestions, and for the use of his private laboratory and apparatus at the Baltimore Medical College.

412 Cathedral Street.

TESTS OF THE VIRULENCE OF DIPHTHERIA BACILLI *

B. L. ARMS, M.D., and E. MARION WADE, B.A.
Bacteriological Laboratory of the Boston Board of Health
BOSTON

Many times the laboratory worker is requested to test the virulence of diphtheria bacilli, especially in cases running for a long time, or in those occurring in institutions, and as we have had many interesting results from these tests we present some of them for consideration.

Our laboratory has always made virulence tests, on request either from the Board of Health or from the attending physician, the procedure being to isolate either by the streak-out method or surface seeding. For the former a series of eight or ten tubes is used, a fresh tube being inoculated from the incubated one; then, after sterilizing the needle, another from the freshly inoculated one, and so on through the series, taking from the first tube to the second, from the second to the third, etc., sterilizing the needle after inoculating each tube. In that way isolated colonies may be found on the later ones, as of course a smaller number of organisms is carried over each time. For the surface-seeding method five tubes are used, those being selected which contain a fair amount of water of condensation. This is rubbed over the surface in order to insure an even distribution at the proper time. Inoculation is made directly into the water of condensation of the first tube, the needle is sterilized, and a loopful is carried into the water in the second tube; sterilization and inoculation being repeated throughout the series. The tubes are then laid down at the proper angle to cause the water to flow over the surface of the serum and allowed to remain for from two to five minutes, when they are taken up carefully and put into the incubator in the upright position. After incubation isolated colonies are "fished" and planted on serum and in sugar-free broth, and a microscopic examination is also made.

If there is no particular need for haste, or, in cases in which the organisms are very few, we sometimes make serum and microscopic examinations only, inoculating several colonies one above the other on a single serum tube, thereby making a great saving in the amount of media used; for many times we "fish" from twenty to forty colonies from a single series, especially from long-standing cases, the broths being made from the serum tubes after incubation.

These are incubated for forty-eight hours and pigs inoculated subcutaneously, using 0.5 per cent. of the body weight. The reaction may be local or general, or, as is usual in positive cases, both, and is generally present the following day, although a negative report is never given until forty-eight hours after the inoculation.

The virulence of morphologically typical diphtheria bacilli (Wesbrook's A C D) varies, not only in different cases but in different strains from the same case, from those absolutely non-virulent to those which cause death within thirty-six hours.

This was first brought to our notice in December, 1906, when a series of six pigs was inoculated, each with a different strain isolated from the same release culture.

In order to hasten the report one strain was inoculated at the end of the twenty-four hours and this proved virulent, the pig being so nearly dead on the second day that it was chloroformed.

The other five strains were all incubated for forty-eight hours and the difference in their virulence was very marked:

1. This was the pig previously mentioned.
2. This pig died on the eighth day, the reaction being local and general.
3. This pig died on the second day.
4. This pig showed a very slight local reaction on the second day, which increased slightly during the next week, but at no time was there a marked reaction. This pig was kept under observation for six weeks, complete recovery resulting.
5. This pig died on the ninth day.
6. In this instance there was a slight local reaction at the end of twenty-four hours which became more marked daily for some time and there was a slough surrounding the point of inoculation, the pig dying at the end of six weeks.

All of the above strains, grown fifteen hours on serum, were of Wesbrook's A A1 types. A rush of work prevented further tests at this time but an interesting problem had been presented.

Nov. 9, 1907, three pigs were inoculated with three strains isolated from a release culture, two dying within forty-eight hours and the other showing no symptoms; in order to rule out a possible difference in the resistance of the pigs we kept the cultures and eleven days later inoculated the surviving pig, and a new one to serve as a control, with the avirulent strain and at the

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* Read before the Society of American Bacteriologists, at Ithaca, N. Y., Dec. 28-30, 1910.

same time another pig with one of the virulent strains; the first two showed a very slight local reaction the following day and the one receiving the virulent strain showed a marked reaction but lived three weeks from the date of inoculation, dying at that time. On the twenty-second, or two days after the last inoculation, the two pigs receiving the avirulent strain were reinoculated—the original pig with the virulent strain and the control with the avirulent; the original pig developed marked local and general symptoms, dying on the eleventh day from the last inoculation, and the control never showed anything beyond a slight local reaction, from which a complete recovery was made within a few days.

Since this time we have endeavored to make inoculations from several strains from each case, although until recently we have not had a similar case. Aug. 14, 1910, three pigs were inoculated with three strains isolated from a release culture, one of which was virulent and two avirulent.

On several occasions we have been requested to make retests on cases running a protracted course, but it has been our experience that when it has been demonstrated that a virulent organism has caused the condition the virulence remains to the last, and two cases are presented:

Case 1.—Duration from first positive culture to release by two successive negatives, seventy-six days. December 29, 1906, two pigs were inoculated, one dying on the second and one on the third day; December 30, one pig, which died on the second day. Jan. 17, 1907 (this was the last positive culture), two pigs were inoculated, both dying three days later.

Case 2.—Culture was first taken Jan. 10, 1910, and a positive diagnosis returned; all symptoms disappeared within ten days, but the case ran until March 30, when the patient was allowed by the board to go into the country. Virulence tests, made January 28, February 13, and March 26, were all positive.

In general we have found the organisms persisting after a clinical case of diphtheria virulent, but the non-clinical carriers usually harbor non-virulent organisms, an example of this being presented before this society last year.[1] One of the conclusions drawn from that work was as follows: "Where virulent diphtheria bacilli are present, as shown by outbreaks of the disease, cultural tests of all contacts, and isolation of those showing positive cultures, is a duty owed to the community."

An illustration of the truth of this conclusion was demonstrated recently in an institution in which there are about 150 boys. Oct. 8, 1910, the first positive case was reported; another on the sixteenth, one on the twentieth, one November 3 and five on the fourth. This opened the eyes of those in charge and on November 6 seventy cultures were taken from the two cottages in which cases had occurred, fourteen of which were positive; on the eighth 136 cultures were submitted, of which six were positive. The clinical cases had been removed before the general culture taking began, so the last twenty positives were non-clinical cases; but of six cases on which virulence tests were made three were positive, from four to six strains being tried from all cases as follows:

Boy 1.—Six strains inoculated November 14, all positive, the pigs dying within forty-eight hours.

Boy 2.—Seven strains inoculated November 14, all positive, two pigs dying on the second day, two on the third, and three on the fourth.

Boy 3.—Seven strains inoculated November 16, all positive, two pigs dying on the second, four on the third, and one on the fifth day.

Boy 4.—Five strains inoculated November 16, and one December 11 from another culture; all negative.

Boy 5.—Three strains inoculated November 21 and two December 11; all negative.

Boy 6.—Four strains inoculated November 21, all negative; one strain December 1, the pig dying on the second day; two strains December 5 and ten strains December 12, being negative.

It occurred to us that possibly there might be a cause for the variation in virulence in the source of the primary infection. Accordingly the school hospital was consulted and we found that the first four boys, or three with virulent and one with avirulent organisms, came from the same cottage and the remaining two came from two other cottages where there had been no clinical diphtheria. Thus it will be seen that all the boys who were harboring virulent organisms came from a single cottage, and from this cottage most of the clinical cases had been taken, and that also a carrier of non-virulent organisms came from the same cottage. Boy 1, three days after the culture taking, became a clinical case and was sent to the contagious hospital, the others being isolated on the institution grounds.

It is interesting to note that those cases which showed a positive virulence at all times cleared up more quickly than the others. The last positive cultures from Boys 2 and 3 were taken twenty-one and twenty days, respectively, after the primary one, the others still being positive three weeks later.

While working on these institutional cases we had a few positive cases from another institution where they had a single clinical case, and the virulence was tested on two of them, one being the clinical case, and the other, one of the exposed children. From the clinical case five strains were inoculated, four of them being positive and one negative; of the positive pigs three died on the second and one on the third day; from the other case all three were positive, the pigs dying within forty-eight hours.

One other case occurred at the same time. A boy at home had clinical diphtheria and both his mother and brother had positive cultures. The mother's throat cleared within six days but the brother's persisted. A virulence test was made from the primary culture of the brother, who was never a clinical case, two strains being tested, one killing the pig on the third day, the other being non-virulent.

CONCLUSIONS

1. Clinical diphtheria is caused by virulent diphtheria bacilli.
2. As a rule, following clinical diphtheria, the organisms retain their virulence as long as they persist.
3. As a rule, virulent and avirulent bacilli are not found in the same case, but, as these cases do occur, several strains should be tested before they are reported non-virulent.
4. In diphtheria outbreaks a large percentage of the "carriers" harbor virulent organisms, although such carriers may develop no symptoms whatever.
5. Cultures should be taken from all contacts before terminating quarantine in all cases of diphtheria.

30 Huntington Avenue.

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[1] Slack, Arms, Wade and Blanchard: Diphtheria Bacillus-Carriers in the Public Schools, The Journal A. M. A., March 19, 1910, p. 951.

TREATMENT OF SINUS AND MIDDLE-EAR DISEASE WITH THE VACUUM-PUMP

J. A. PRATT, M.D.
AURORA, ILL.

Careful study of the nose impresses one with the fact that the sinuses play a greater part in its troubles than we have ever imagined.

Many headaches which oculists formerly ascribed to eyestrain are now found to be caused by sinus trouble. As a rule, sinus headaches are easily diagnosed, as they are intensified by lowering the head, but frequently there are obscure cases in which diagnosis is difficult; it is well, therefore, in patients complaining of continuous or interrupted pain in the head, not increased by eye work, to make a thorough examination of the sinuses. Frequently the most painstaking examination fails to reveal pus at the natural openings of the sinuses. If the ostia are not patulous and the confined pus or secretion lacks the pressure necessary to force its way out, the physician is apt to miss the diagnosis of sinusitis and to ascribe the headache to some other cause. It is in such cases, that application of the vacuum-pump for a few minutes demonstrates the sinusitis by relieving the headaches. This is particularly true in acute cases, especially before they become purulent, and in my opinion the vacuum-pump should be used as a regular routine measure for diagnostic purposes in patients with these vague head symptoms.

In middle-ear diseases in which there is a patulous tube, the vacuum-pump is of inestimable value, as the secretions of the middle ear, antrum and even of the mastoid, if there are patulous openings, are easily drawn into the throat, the natural drainage spot. With suppurating otitis media with perforation the condition of the tube may be ascertained by inflation.

A suction-pump should never be applied to the external meatus, because while by this means the secretions are drawn from the middle ear and its adjacent cavities, one is also apt to draw germs and secretion from around the pharyngeal opening of the Eustachian tube up into the middle ear, and it is possible to reinfect or doubly infect that cavity. By covering a small cork with a piece of soft tubing and plugging the external meatus, after all available secretions have been swabbed out, and then applying the vacuum-pump to the nose the secretions are sucked out by the way that Nature intended they should go.

While we cannot tell positively the function of the different sinuses, we know that they must be well ventilated, and that the hypermoistened air and what little secretion is present are drained into the nose and pharynx by the vacuum pressure caused by the air as it rushes to and fro in the nasopharyngeal passage. In using the vacuum-pump we are simply magnifying Nature's method of emptying these spaces, and by this increase in power we are able to overcome partial stenosis of the ducts and openings leading from these sinuses to the upper air tract.

The first principle of good surgery is to drain if pus be present; and by use of the vacuum-pump, we are applying to these chambers this great principle. Relieving Nature of this extra work is frequently the turning-point in a cure.

Surgery should not be abandoned. Every nose should be made as nearly normal as possible so that there will be proper ventilation of the nasal chamber. All pressure should be removed from the openings of the sinuses; then with the vacuum treatment the radical operation can frequently be avoided. Unless there are urgent symptoms, such as pain and necrosis, months instead of weeks, as recommended by Ballenger, should be devoted to this line of treatment, for all operators know that the radical operation is not followed by prompt recovery, and that frequently months of post-operative treatment are necessary. Whether the patient should have a radical operation or not must be decided by the physician. Knowing that pus under pressure is very virulent and destructive to tissue, we should at once relieve these cavities when they contain pent-up secretions, and this the vacuum-pump enables us to do.

By using the vacuum-pump we do not leave solutions in a sinus, nor do we infect cavities, as we are apt to do in the washing-out treatment.

Very little has been written on this subject and Ballenger's is the only book I have seen that mentions the vacuum method. The technic of using the pump is very simple. The patient's nasal cavity is thoroughly cleaned, and then sprayed with a 2 per cent. cocain solution to contract the tissues and render the sinus openings more patulous. After the pump is attached to the water faucet, the patient is instructed to close one nostril and insert the nasal tip in the other; by swallowing, the soft palate is then raised and closes off the nasopharyngeal space, while the suction of the pump holds the velum tightly in place. As soon as the patient feels the suction he should open his mouth, allowing the tongue to lie perfectly relaxed and breathing through the mouth.

In my experimental work along this line, I find that ten minutes of actual suction is sufficient to empty the sinuses and to give their membranes a stimulating hyperemia.

When the discharge is very profuse, I give the treatment twice a day, and if necessary, I give the instrument to the patient for home treatment.

A report of a few cases may be of interest:

Case 1.—Mr. S., aged 42, had chronic frontal sinus trouble for some years. When first seen some years ago, a deviating septum was operated on, and the anterior third of both middle turbinates removed, thus curing the right sinus by establishing good drainage. The left sinus still discharges, as the patient will come to the office only when in pain, caused by the retained secretion during nasal congestion. A treatment by the vacuum-pump relieves the symptoms for weeks. This is one of the many cases every physician has in which the patient is too busy to be cured.

Case 2.—Miss B., aged 18, had had headache for three days, which was worse when the head was lowered. The nasal mucous membrane was congested; there was very little secretion. After five minutes' application of the pump the pain was entirely relieved. Treatments were given for three consecutive days; there was no pain or discomfort after the first treatment.

Case 3.—Mrs. S., aged 45, had had intense frontal headache for six weeks; it was slightly worse on the left side. Glasses were fitted by two different physicians but with no relief of pain. Pain was continuous night and day; at times it was so great that the patient threatened to end her life if not relieved. The pain was exaggerated on leaning forward, and by jars. There was no discharge from nose or throat. The nasal examination showed no hypertrophies and the only discharge found was a very small drop of pus at the nasal opening at the left posterior ethmoid sinus. The vacuum-pump relieved the pain in two minutes, when a mucopurulent mass was blown from the left nostril; after the ten minutes' treatment there was absolutely no pain; a slight sense of fulness returned the next day but without pain. The patient was not seen for twelve days; there was no further complaint.

Case 4.—Miss H., aged 16, a schoolgirl, came to be examined for glasses as her head had been aching for a week. Sinusitis was diagnosed: three treatments with vacuum pump effected a cure.

Case 5.—Mr. H., aged 40, electrician, had previously been fitted with glasses. He has an extreme deviation of the septum to the left completely blocking the left nostril, and during the past year he twice set date for submucous operation. He complained of photophobia and pain in and over the left eye, radiating to the occiput. The pupil was contracted; there was no nasal discharge, and headache was not particularly increased by leaning forward. The pain was severe enough to awaken the patient. The pupil was dilated and he was sent home. On the following day there was no relief of symptoms, but the patient was relieved at once by application of the vacuum-pump, and there was no return of symptoms after the fourth treatment. The pump certainly corrected this diagnosis and as I look back I can recall many cases that would have been cleared up by this little instrument.

Case 6.—Miss H., aged 25, has had progressive deafness with tinnitis and fulness of the ears for two years. There was partial stenosis of the nasal passage, which was relieved by operative means, and then inflations employed with benefit up to a certain point. After inflation, the patient would soon complain of stuffiness and noise. The vacuum-pump has started this patient on the road to recovery, as the serous secretion is now sucked from the middle ear; the sense of stuffiness and noise rarely returns and the hearing is now steadily improving, while before it was at a standstill.

There are great possibilities in these cases in which there is hypersecretion of the middle-ear and its accessory cavities. Many physicians are undoubtedly using the vacuum-pump, but in my clinical wandering I have not come across them. Future reports along these lines will be interesting.

A CASE OF PRIMITIVE OBSTETRICS

L. WEINSTOCK, M.D.
GERMANTOWN, PA.

History.—On Jan. 1, 1911, at 1:30 p. m., I was called to a negress, iii-para, age 22, unmarried, a domestic in a boarding house who had given birth to a boy at 3:30 a. m. of the same day under the following circumstances: Thinking herself pregnant for but seven months, she had made no arrangements for the birth of this child, as she had had twins about a year and a half ago, both children dying soon after birth. On Dec. 31, 1910, at 11 p. m., while alone in the house, she experienced a sudden pain in the abdomen which made her "double up." It soon passed off, and she thought it was simply cramp. In a short time pains began again, and she suspected that they were labor pains. After four and a half hours a boy was born. She waited till the placenta was born, and with scissors cut the cord about six inches from the umbilicus, and did *not* tie the cord which was still attached to the child. Washing herself as well as she could, and wrapping the child up in a blanket, she went to sleep. Next morning at 6:30 a. m. she rose, dressed, prepared breakfast for the family, did her other work, and then told her mistress what had happened early in the morning. She then wrapped all her bloody linen around the placenta, placed the bundle in a suit case, wrapped the child in some blankets, and went home on foot, a distance of six squares. Reaching home, which by the way was the home of the father, she went to bed and called me.

Examination.—I found the patient to be a fairly well-developed young woman, of apparent good health. Temperature was 98.6 F., pulse 65, respiration 18. Vaginal examination showed a slight median tear of the perineum, but the uterus was in normal condition following delivery. She was given a uterine douche. The child was fully developed, about 8 pounds in weight, and showed no marks or deformities. After giving the child a bath, I tied the cord about one and a half inches from the umbilicus, and cut off the rest. This procedure was, I think, not absolutely necessary, as the cord was absolutely bloodless, but was done for sake of precaution.

Subsequent History.—The mother never had a temperature above 98.8 F., or a pulse rate above 70 during her six days in bed. She got out of the bed on Jan. 6, 1911, and went back to her position. The child is doing well, and seems in no way concerned as to the attention he received when he entered this world.

The long time the child was attached to the placenta, a period, so far as the mother can guess, of ten minutes, probably saved it from hemorrhage. This case seems to emphasize the point that in a normal case the less the attending physician does the better it will be for the mother.

44 West Chelten Avenue.

A METHOD OF STAINING GRANULAR CASTS AND OTHER TUBE PRODUCTS

H. B. ERDMAN, M.D.
WERNERSVILLE, PA.

Since it is often desirable to stain and mount tube-casts for preservation, the following method is suggested as being simple and easily carried out, and at the same time showing distinctly many features difficult to recognize in the unstained specimen:

Sediment the fresh urine in a centrifuge: pour off the supernatant urine, and fill the tube with 0.4 per cent. sodium chlorid solution. Gently shake the deposit, centrifuge, pour off the solution, and repeat the washing, this time centrifuging till the sediment forms a dense clump at the bottom of the tube.

Slowly pour off the solution, invert the tube and allow it to drain for a few moments; the sediment will remain in the point of the tube.

With a long pipette transfer a small drop of sediment to a cover-glass, gently spread with a fine platinum wire loop, and dry in air. The spread must be thin.

Treat for three minutes with a 5 per cent. aqueous solution of mercuric chlorid. Wash thoroughly in water.

Stain for five minutes with a fresh mixture of equal parts of the following solutions: methylene blue, 0.3 per cent. aqueous solution: fuchsin, 0.02 per cent. aqueous solution; wash in water, dry, and mount in balsam.

To demonstrate fat, stain the fixed spread for five minutes with a solution of Sudan III in 70 per cent. alcohol. Wash in water, and apply the double stain as before. Mount in glycerin or glycerin jelly.

Mucin and chromatin stain violet to indigo, granular casts and protoplasm stain from pink to dark red, waxy casts stain bright red and fat globules bright orange.

One washing may suffice when the urine contains a very small amount of sediment. The stains may be used singly, first staining with fuchsin, washing in water and counter-staining with methylene blue.

Leukocytes and epithelial cells stain distinctly, the protoplasm of renal epithelium usually taking a dark red color, that of squamous epithelium a light pink. Red blood-cells may show a pale salmon color. Mucinous products are distinguished chiefly as filaments, agglutinations, showing their structure by longitudinal or spiral striations, and homogeneous casts. These forms merge into each other, there are no sharp dividing lines. They are probably not of much significance when not accompanied by granular casts.

Granular casts stain red and are thus more easily found than in the unstained sediment. Homogeneous casts staining red may be found in connection with granular casts. They are frequently of high density and refraction, assuming a waxy character. Epithelial cells may be embedded in mucinous, granular or waxy material.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

COMPRESSED OXYGEN: Oxygenium compressum.—Compressed oxygen is gaseous oxygen, O_2, in a compressed state.

Compressed oxygen is a colorless, odorless and tasteless gas, slightly soluble in water and neutral to ordinary indicators. The gas is not inflammable but supports combustion much more vigorously than does air. Ignited carbon, sulphur, phosphorus and heated iron burn with an intense light in the gas. It colors colorless reduced indigo—carmine blue.

Compressed oxygen should be neutral toward litmus and when passed through an aqueous solution of silver nitrate no turbidity should be produced.

No color should be produced when 4 liters of the gas are passed through water containing potassium iodide and starch solution.

Not more than an opalescence should be produced when 4 liters of the gas are passed through an aqueous solution of barium hydroxide.

When 4 liters of the gas are passed through an aqueous solution of sodium hydroxide, then over heated platinum, and finally through an aqueous solution of barium hydroxide, no turbidity should be produced in the latter. When shaken in a gas burette with an alkaline solution of pyrogallol at least 94 per cent. of the gas should be absorbed.

Actions and Uses.—Compressed oxygen is administered for the purpose of relieving difficult respiration in cases of mechanical hindrance to the ingress of air to the lungs.

Dosage.—It is inhaled from a mouth piece attached to the cylinder.

TUBERCULIN PREPARATIONS (SEE N. N. R. (1911), P. 196)

Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Triturated Tubercle Bacilli.—Used for the preparation of an agglutinating liquid for the detection of agglutinins in the blood serum of tuberculous patients. The bacilli are rubbed in a mortar with 0.8 per cent. sodium chloride solution containing 0.5 per cent. phenol and centrifugalized for a short time; the preparation is to be diluted 1 to 10,000 before using. Marketed in bottles containing 0.1 Gm. triturated tubercle bacilli.

Spinal Anesthesia and Shock.—The principal agencies in the production of surgical shock and collapse are those which make a sudden and deep impression on the central nervous system or the large sympathetic ganglia through the medium of the sensory nerves. Experimental researches have shown that if we block the passage of such impulses by means of a local anesthetic drug injected into the large nerve trunks leading from the part, or into the dural sac, we safeguard the patient against shock. Spinal anesthesia, therefore, prevents shock by blocking off the centripetal impulses passing to the nervous centers. To obtain a perfect result by this method it is essential to produce a complete block, otherwise shock to a greater or lesser degree will result.—E. C. Ryall, in the *Practitioner*.

Therapeutics

ASCARIS LUMBRICOIDES

ROUND WORM

Many years ago it was a common belief among members of the medical profession that large numbers of children suffered from worms. More recently, the presence of these parasites as the cause of unpleasant symptoms has been in a measure neglected by the profession. While mothers, nurses and friends have been quick to suggest worms as the cause of noticeable symptoms, physicians have ridiculed the idea with the result that many a physician has been humiliated by having exhibited to him a worm, which had been passed by a child, after he had expressed the opinion that there were no worms. The fact is that worms are sufficiently prevalent among children for the physician to bear in mind the possibility of obscure symptoms being due to this cause.

In the case of the *Oxyuris vermicularis*, or thread worm, the presence of itching about the anus is so common and so conspicuous a symptom that there is little excuse for overlooking the presence of the parasite, but with the *Ascaris lumbricoides*, or round worm, the case is different. One or more of these worms may be present in the intestine without giving rise to any symptom of sufficient importance to attract the attention of either the parent or the physician. This renders it all the more important that the physician should be on the lookout and consider the possibility of the presence of this parasite in any child, who for a considerable period suffers from indefinite symptoms for which no clear explanation can be found.

The round worm is considered by some to be the most common of the intestinal parasites found in the human subject, although others believe that the pin worm is more common. The round worm is of a reddish or brownish color, about ¼ inch in diameter, the size of a goose quill. The male varies in length from 4 to 8 inches, the female from 6 to 12 inches. The male is the more curved, and the female the straighter. It has been estimated that the genital tubes of a large, mature female may contain 60,000,000 eggs. The eggs after having been passed from the intestine are exceedingly tenacious of vitality, which may be retained even for two or three years. These worms live, also, in the intestinal canal of cattle and hogs, and the eggs may be conveyed with the excrement of these animals to fields where vegetables are cultivated, and either on such vegetables, which are not carefully cleaned, or in water which is consumed in the fields or at the table, the ova may be taken into the stomach of the human subject.

The eggs are destroyed by boiling, and may be removed by filtration, so that people who use distilled or filtered water need have little fear of becoming infected with the round worm. After having been taken into the stomach, in the course of one, two, or three weeks, the worm is hatched out and then continues to live, ordinarily, in the upper part of the small intestine. From this, its usual habitat, it may travel into the stomach, and is sometimes expelled from this organ by vomiting. Sometimes it comes into the throat, from which it may be removed by the fingers. Rarely it enters the larynx, where it may produce asphyxiation; or it may go into the trachea and produce gangrene of the lungs. Sometimes it enters the nose, and in rare instances has passed through the Eustachian tube into the middle ear. From the intestine it may also enter the bile ducts. The intestine may contain a single worm, but generally there are several, perhaps six or eight, and over a hundred have been found. When there are very many, they may collect together into a mass, and may cause intestinal obstruction.

As has been stated, worms may be present in the intestine and give rise to no noticeable symptoms. Probably many of the symptoms which have been attributed to worms are not really due to them, but to some other condition.

The symptoms which are due to their presence are: transient pains in the abdomen of varying severity; changes in the appetite, either impairment of appetite or ravenous appetite; occasional attacks of diarrhea, the movements sometimes having a mucous character; sometimes nausea and vomiting; distention of the abdomen; loss of flesh; and itching about the anus and about the nose. Nervous symptoms are frequently attributed to presence of worms in the intestine. These may be restlessness, especially during sleep, irritability, choreic movements and, in rare instances, epileptic convulsions of greater or less severity.

The presence of worms is definitely determined by finding the worm in the feces. This is most likely to be possible after the patient has taken a cathartic. A more certain way of making the diagnosis, but one which, of course, is more troublesome, is to examine microscopically the solid residue obtained by filtering the liquid feces. If worms are present, their eggs will be found in the fecal matter.

Associated with the worm is a peculiar, disagreeable odor, which is characteristic, and which is believed by some to belong to a toxic product produced by the worm, which toxin gives rise to symptoms referable to the nervous system.

Treatment directed toward the removal of the worm should not be commenced until a positive diagnosis has been made. The drugs most frequently used to extirpate this parasite are santonin and spigelium. The one in most common use and most effective is santonin, though it is a drug that may readily cause poisoning and, therefore, should be used with caution, especially in young children.

As is so well understood in the treatment for the extirpation of a tapeworm, the emptier the upper part of the intestine is, the less food or nutriment the worms have had, the better will they partake of the drug that stupefies or kills them. After they are stupefied, ordinary catharsis will eradicate them. The younger the child, naturally the less severe must be the treatment.

Taking a child 5 years old as a type, it should be given a cathartic dose of a laxative at night, such as an aromatic fluidextract of cascara or the aromatic tincture of rhubarb. The next morning the child should receive for breakfast only a cup of weak tea or a cup of clam broth, just so that it will feel it has had something to eat. Then the specific should be used, either santonin or spigelium. If the child is weak, or much younger than 5 years, spigelium should be the drug relied on.

For a child 5 years old:

℞	Gm. or c.c.		
Fluidextracti spigeliæ	50	or	fl. ℥ii
Fluidextracti sennæ	25		fl. ℥i

M. et Sig.: One-half a teaspoonful, in water, every hour for three doses.

If it is thought best to use the more powerful drug, santonin, it may be administered as follows:

℞	Gm. or c.c.		
Santonini	0|30	or	gr. v
Hydrargyri chloridi mitis	0|20		gr. iii
Sacchari lactis	3|		gr. xlv

M. et fac chartulas 10.
Sig.: A powder, in water, every hour for three doses.

If the above does not move the bowels in four hours after the first dose of the vermifuge, some other cathartic must be given, such as castor oil, or such portion of a seidlitz powder as is advisable for the age of the patient. In an hour after the last dose of either the spigelia or santonin, the little patient may have a good meal. At any time during the treatment if the child seems weak, a little brandy stimulation should be given.

Wormseed oil (*oleum chenopodii*) has long been used to eradicate this worm, and is more or less efficient. The dose is about 5 drops, several times repeated. A cathartic should follow. When this oil is used, it may be given on a lump of sugar or in a teaspoonful of granulated sugar.

Whatever the treatment, it is advisable to repeat it in three days, and again in a week. After the catharsis is complete, in the latter part of the day of treatment, a catheter should be inserted through the rectum, well up through the sigmoid, and a colon wash should be given with a small amount of warm saline solution, stronger with salt than the physiologic saline. This will wash out many of the eggs of the worms that have not been removed by defecation.

While the above treatment seems more or less elaborate and looks almost like a surgical proposition, it is not good sense to dally with a patient who has these worms. They must be eradicated, if possible.

It should not be forgotten that an unhealthy condition of the intestinal tract is usually associated with the presence of the round worm, and a chronic catarrh of the intestine is conducive to their welfare and encourages their growth and persistence. Hence we should always, after the above treatment, carefully regulate the diet and give such medication, bismuth and soda perhaps, or magnesium, as will cause normal movements of the bowels and cure the chronic catarrh of the upper intestine.

SANTONICA, U. S. P.

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This is also known as Aleppo, Alexandria or European wormseed. It is a small shrub, about a foot in height (*Artemisia pauciflora*), which grows in Europe and Asia, and the part used is the "dried, unexpanded flower-heads" (U. S. P.). These flower-heads are very small, and are of a pale, greenish-brown color, and have a camphoraceous odor and a bitter taste. They contain from 1 to 2 per cent. of santonin, about 2 per cent. of a volatile oil, artemisin, a resin and a gum.

SANTONIUM, U. S. P.—SANTONIN

Description.—Santonin is a neutral principle obtained from santonica, and is "the inner anhydrid or lactone of santonic acid" (U. S. P.). Santonin undergoes changes if exposed to the light. It occurs in shining, colorless prisms, has no odor, is not readily soluble, but if held long in the mouth gives a bitter taste.

Action.—Santonin is not irritant, very slowly dissolves in the stomach and intestine, and but a small amount, ordinarily, is absorbed. If much is absorbed, it causes nervous phenomena, one of which is yellow sight, zanthopsia, i. e., objects look yellow. This is a harmless condition, and may last for from several hours to a day. It may be due to an action on the cerebrum or on the retina, as the fluids of the eye are not colored. If a poisonous amount is absorbed, the nervous system is seriously affected and the circulation is depressed. There may be also some kidney irritation. If there is much absorbed, the urine becomes yellow, which in the presence of an alkali is changed to red. A bloody-appearing urine after santonin has been administered should be treated with acid, which will change the color to yellow. This would differentiate the santonin product from blood. After the administration of santonin, it is not unusual to have increased frequency of urination, and sometimes irritability of the bladder.

Fortunately, but a small portion of the drug is absorbed, and this is absorbed as sodium santoninate. The major part of the drug ingested passes through the intestine unassimilated and stimulates the intestine somewhat, causing increased peristalsis. It has not been determined whether santonin stupefies the round worm, or whether it sets up an intoxication of the worm which kills it. At any rate, the round worm, under the influence of santonin and a cathartic, is expelled, sometimes dead, sometimes alive.

Toxic Action.—If a poisonous amount of santonin is absorbed (and if santonin remains long in the stomach and intestine such an amount is readily absorbed) the hands and feet become cold, the face pale, there may be profuse perspiration and a weak pulse, typical collapse symptoms. On the other hand, there may be dizziness, tremblings, and convulsions, followed by coma, and death from failure of the respiration. The treatment is rapid evacuation of the stomach and bowels, the administration of strychnin, coffee and whiskey or brandy if there is circulatory failure, and the application of dry heat to the body. If the nervous symptoms are much in evidence, and especially if there are convulsions, inhalations of chloroform should be given, and then later the collapse symptoms treated.

Therapy.—There is only one legitimate use for santonin, and that is to remove the *Ascaris lumbricoides*, or round worm of the intestine. It has been recommended and used for incontinence of urine in children, in epilepsy, and in some diseases of the retina and optic nerve, but there is no justification for such use of this drug.

Administration.—It has been stated that an oil would cause this drug to be more readily absorbed, and therefore, poisoning could more readily take place. This seems not to be true. In fact, castor oil administered with, or perhaps better an hour or two after the santonin, is a preventive of its absorption.

The dose for a child 5 years old is 0.03 gram (½ grain), well combined with a small dose of calomel. This dose may be repeated once an hour for three times, and then not repeated for at least three days.

Sodium santoninate is more soluble, and therefore more rapidly absorbed than santonin, and hence is more dangerous than santonin, and should not be used.

It is needless to state, after the description of the above toxicology, that santonin should not be given carelessly to young children. In fact, it should not be sold by a druggist except through the prescription of a physician. Serious poisoning not infrequently occurs.

Official Preparation.—*Trochisci santonini*, troches of santonin, contain 3 per cent. of santonin, with sugar, tragacanth and a small quantity of orange flower water. Each troche contains 0.03 gram (½ grain). The dose for a child 5 years old would be one tablet, thoroughly chewed up, every hour for three doses, this followed by a cathartic.

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Description.—Spigelia, genitive spigeliæ (*Spigelia marilandica*) is a plant of the states around or near the Potomac River. It is variously known as the Maryland, Carolina or Indian pink; often also called worm weed and American worm-root. The plant grows to a height of one or two feet, and the part official is the dried rhizome and roots. It contains a volatile alkaloid, spigelin, a bitter principle, a volatile oil, resins, tannin, wax, fat and a gum.

Action.—This drug has no special action externally. When taken internally it causes, ordinarily, no systemic effects. If it remains long in the intestine not accompanied by or soon followed by a cathartic, enough may be absorbed to be depressant to the nervous system and circulation. In exceedingly rare instances it might cause irritation to the nervous system and could cause death. In the intestine it exerts a stupefying or toxic effect on the round worm, and catharsis completes the extirpation of the parasite. The drug passes out of the body principally by the intestines, without any absorption having taken place.

Toxic Action.—It is exceedingly rare for any toxic effect to occur from spigelia. If, however, it remains long in the alimentary tract, enough could be absorbed to cause muscle and circulatory weakness, impairment of vision, dilatation of the pupil, possibly delirium and convulsions, with general paresis and coma. Such action from this drug, however, is exceedingly rare, and could only occur when the mistake was made of not combining in some way the administration of the drug with a cathartic. The treatment would be evacuation of the stomach and bowels, cardiac stimulants, especially strychnin, and surrounding the body with dry heat.

Therapy.—The only therapeutic use for spigelia is to promote the removal from the intestine of the round worm, and occasionally to aid in the removal from the rectum of the pin worm.

Official Preparation.—*Fluidextractum spigeliæ.* The single dose for a child of 10 years is 5 c.c. (1 fluidram), a teaspoonful.

Administration.—The fluidextract is the best preparation of this drug, and it is used combined in the same prescription with the fluidextract of senna, with one part of the fluidextract of senna to two parts of the fluidextract of spigelia, and the dose for a child five years of age would be about one-half a teaspoonful of the mixture, every hour for three doses, and then if the bowels do not move in two or three hours, some brisk purgative should be given.

For efficient action of any anthelmintic the bowels should be well moved some hours previous to the administration of the anthelmintic, and any nourishment given during the period of activity of the treatment should be either simple bouillon or weak tea.

It should be remembered that spigelia does not kill round worms, but stupefies them; consequently, if good cathartic action does not soon occur after the administration of the spigelia in combination with a laxative, a brisk cathartic, as a saline, should be administered, else the worms revive and are again difficult to remove.

through the Eustachian tube into the middle ear. From the intestine it may also enter the bile ducts. The intestine may contain a single worm, but generally there are several, perhaps six or eight, and over a hundred have been found. When there are very many, they may collect together into a mass, and may cause intestinal obstruction.

As has been stated, worms may be present in the intestine and give rise to no noticeable symptoms. Probably many of the symptoms which have been attributed to worms are not really due to them, but to some other condition.

The symptoms which are due to their presence are: transient pains in the abdomen of varying severity; changes in the appetite, either impairment of appetite or ravenous appetite; occasional attacks of diarrhea, the movements sometimes having a mucous character; sometimes nausea and vomiting; distention of the abdomen; loss of flesh; and itching about the anus and about the nose. Nervous symptoms are frequently attributed to presence of worms in the intestine. These may be restlessness, especially during sleep, irritability, choreic movements and, in rare instances, epileptic convulsions of greater or less severity.

The presence of worms is definitely determined by finding the worm in the feces. This is most likely to be possible after the patient has taken a cathartic. A more certain way of making the diagnosis, but one which, of course, is more troublesome, is to examine microscopically the solid residue obtained by filtering the liquid feces. If worms are present, their eggs will be found in the fecal matter.

Associated with the worm is a peculiar, disagreeable odor, which is characteristic, and which is believed by some to belong to a toxic product produced by the worm, which toxin gives rise to symptoms referable to the nervous system.

Treatment directed toward the removal of the worm should not be commenced until a positive diagnosis has been made. The drugs most frequently used to extirpate this parasite are santonin and spigelium. The one in most common use and most effective is santonin, though it is a drug that may readily cause poisoning and, therefore, should be used with caution, especially in young children.

As is so well understood in the treatment for the extirpation of a tapeworm, the emptier the upper part of the intestine is, the less food or nutriment the worms have had, the better will they partake of the drug that stupefies or kills them. After they are stupefied, ordinary catharsis will eradicate them. The younger the child, naturally the less severe must be the treatment.

Taking a child 5 years old as a type, it should be given a cathartic dose of a laxative at night, such as an aromatic fluidextract of cascara or the aromatic tincture of rhubarb. The next morning the child should receive for breakfast only a cup of weak tea or a cup of clam broth, just so that it will feel it has had something to eat. Then the specific should be used, either santonin or spigelium. If the child is weak, or much younger than 5 years, spigelium should be the drug relied on.

For a child 5 years old:

℞	Gm. or c.c.		
Fluidextracti spigeliæ	50|	or	fl. ʒii
Fluidextracti sennæ	25|		fl. ʒi

M. et Sig.: One-half a teaspoonful, in water, every hour for three doses.

If it is thought best to use the more powerful drug, santonin, it may be administered as follows:

℞	Gm. or c.c.		
Santonini	0|30	or	gr. v
Hydrargyri chloridi mitis............	0|20		gr. iii
Sacchari lactis	3|		gr. xlv

M. et fac chartulas 10.
Sig.: A powder, in water, every hour for three doses.

If the above does not move the bowels in four hours after the first dose of the vermifuge, some other cathartic must be given, such as castor oil, or such portion of a seidlitz powder as is advisable for the age of the patient. In an hour after the last dose of either the spigelia or santonin, the little patient may have a good meal. At any time during the treatment if the child seems weak, a little brandy stimulation should be given.

Wormseed oil (*oleum chenopodii*) has long been used to eradicate this worm, and is more or less efficient. The dose is about 5 drops, several times repeated. A cathartic should follow. When this oil is used, it may be given on a lump of sugar or in a teaspoonful of granulated sugar.

Whatever the treatment, it is advisable to repeat it in three days, and again in a week. After the catharsis is complete, in the latter part of the day of treatment, a catheter should be inserted through the rectum, well up through the sigmoid, and a colon wash should be given with a small amount of warm saline solution, stronger with salt than the physiologic saline. This will wash out many of the eggs of the worms that have not been removed by defecation.

While the above treatment seems more or less elaborate and looks almost like a surgical proposition, it is not good sense to dally with a patient who has these worms. They must be eradicated, if possible.

It should not be forgotten that an unhealthy condition of the intestinal tract is usually associated with the presence of the round worm, and a chronic catarrh of the intestine is conducive to their welfare and encourages their growth and persistence. Hence we should always, after the above treatment, carefully regulate the diet and give such medication, bismuth and soda perhaps, or magnesium, as will cause normal movements of the bowels and cure the chronic catarrh of the upper intestine.

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Action.—Santonin is not irritant, very slowly dissolves in the stomach and intestine, and but a small amount, ordinarily, is absorbed. If much is absorbed, it causes nervous phenomena, one of which is yellow sight, zanthopsia, i. e., objects look yellow. This is a harmless condition, and may last for from several hours to a day. It may be due to an action on the cerebrum or on the retina, as the fluids of the eye are not colored. If a poisonous amount is absorbed, the nervous system is seriously affected and the circulation is depressed. There may be also some kidney irritation. If there is much absorbed, the urine becomes yellow, which in the presence of an alkali is changed to red. A bloody-appearing urine after santonin has been administered should be treated with acid, which will change the color to yellow. This would differentiate the santonin product from blood. After the administration of santonin, it is not unusual to have increased frequency of urination, and sometimes irritability of the bladder.

Fortunately, but a small portion of the drug is absorbed, and this is absorbed as sodium santoninate. The major part of the drug ingested passes through the intestine unassimilated and stimulates the intestine somewhat, causing increased peristalsis. It has not been determined whether santonin stupefies the round worm, or whether it sets up an intoxication of the worm which kills it. At any rate, the round worm, under the influence of santonin and a cathartic, is expelled, sometimes dead, sometimes alive.

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 18, 1911

ANIMAL EXPERIMENTATION

The Bureau for the Protection of Medical Research of the American Medical Association has had prepared, by experts in the several fields, pamphlets on the relation of animal experimentation to practical medicine and surgery.[1] The latest pamphlet and one of the best and, we believe, most effective of the series, on "Some Characteristics of Antivivisection Literature," is by Dr. W. B. Cannon, the chairman of the bureau.[2] In it the nature of antivivisection methods is discussed after an extensive study of antivivisection pamphlets, leaflets and letters to the daily press.

The antivivisectionists have always made much of the testimonials of physicians in their behalf. Examination of the list of physicians whom they quote gives an instructive revelation of the methods of the agitators. Sir Charles Bell, dead nearly seventy years, secured the final proof of his greatest discoveries by experiments on animals done a hundred years ago; he is quoted as opposed to present methods of medical research. The address of Dr. Henry J. Bigelow, delivered forty years ago and based on experience in pre-anesthesia days, is quoted without reference to a later letter in which he admitted the utility of experimentation and objected sharply to the failure of antivivisectionists to discriminate between painful experiments and those in which pain is minimized. Dr. Lawson Tait, known generally as "a man of wild statements," whose denunciation of Koch, Pasteur and Lister has been widely quoted, is shown to have "enjoyed being in a minority," which led him to champion many lost causes.

Other physicians, whose opinions are quoted in antivivisection pamphlets, are as follows: Dr. Charles Clay, born in 1801, "interested in geology and archeology and collector of fossils." Dr. Charles Spooner, born in 1806, veterinary surgeon. Dr. John Elliotson, born in 1791, mesmerist, and founder of a mesmeric hospital. Dr. J. E. Garretson, born eighty-two years ago, and Dr. Elizabeth Blackwell, born eighty-nine years ago. Sir William Fergusson, M.D., born more than a century since, said to be ill-advised in some expressions of opinion, "especially in matters requiring more knowledge of physiology and hygiene than he possessed." Charles Bell-Taylor (dead in 1909, aged 80) who originated the widely quoted sentence: "Pasteur does not cure hydrophobia, he gives it"; and who, ignoring our great debt to animals for the medicines that induce sleep, for all those that give us local freedom from pain, for physostigmin, amyl nitrite, epinephrin, and many others, told his antivivisection admirers that experiments on animals have yielded us no knowledge of drugs. Sir Richard Owen, M.D., comparative anatomist and zoologist, born in 1804. Dr. John Abernethy, who *died* in 1831. J. J. Garth Wilkinson, born ninety-eight years ago, holder of an *honorary* M.D. degree, poet, mystic, expositor and editor of Swedenborg, author of "Improvisations of the Spirit," etc.

Information regarding the living "physicians and surgeons of greatest eminence" was obtained from the little autobiographies in "Who's Who." Dr. Arabella Kenealy sets herself down as novelist and contributor to magazines, author of "Molly and Her Man of War," "Some Men are Such Gentlemen," and other volumes. Dr. W. Gordon-Stables describes himself as novelist, journalist, professional writer for twenty-four years, author of 136 books and serial novels; "In the Dashing Days of Old" and "The Pirates' Gold" are cited as examples. Dr. W. R. Hadwen is secretary of the British Union for the Abolition of Vivisection, public advocate of the repeal of the vaccination acts and the prohibition of experiments on animals; is engaged in reform movements relating to temperance, food, hygiene, sanitation, education, and burial laws; he finds his recreation in changing his occupation. Dr. Edward Berdoe, born seventy-four years ago, reports himself as a writer; author of Browning studies, "Browning and the Christian Faith," "A Browning Primer," "The Browning Encyclopedia," "*The Biographical and Historical Notes* to Browning's Complete Works," and several other books; also editor of the *Zoophilist*. Dr. Josiah Oldfield is given as a lawyer, and senior physician to the Lady Margaret Fruitarian Hospital, strong advocate of the fruitarian diet; author of "Flesh-Eating as a Cause of Consumption," "Butchery and Its Horrors," and other volumes. Dr. J. D. Buck, 72 years old, is said to be president of the Theosophical Society of Ohio, author of "Nature and Aims of Theosophy," "Mystic Masonry," "Why I am a Theosophist." Dr. Stephen Townsend is given as novelist, surgeon, and actor, on the stage for years, playing prominent rôles in "Sowing the Wind," "Slaves of the Ring," "Black Tulip," and others.

This completes the list of "eminent" physicians and surgeons who have opposed vivisection, concerning whom any characterization whatever was found—the rest are not of sufficient importance to be mentioned in any of the dictionaries or cyclopedias of biography searched through for information. And this is the array of medical experts who have denounced the method of investigation which, according to Osler, "did more, in the half-century between 1850 and 1900, to emancipate medicine from the routine and thraldom of authority than all the work of all the physicians from the days of Hippocrates to Jenner."

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[1] See advertising page 34, this issue.

[2] Critic and Guide, February, 1911

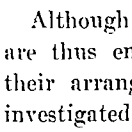
Dr. Cannon next examines some of the accounts of experiments cited in antivivisection pamphlets, and shows how persistently the opponents of medical research have refused to correct serious misstatements regarding the work of medical investigators. Fifteen years have passed since Dr. H. P. Bowditch pointed out the absurdity of the charge that supreme "agony" was caused by stimulating a piece of nerve separated from the central nervous system—the slander is still being distributed. Ten years have passed since Dr. W. W. Keen laid bare in The Journal instances of repeated interpolations, mistranslations, and garbled, inaccurate accounts of experiments in a single antivivisection publication—the New York Antivivisection Society is now circulating literature in which the deceptions and evil insinuations are still retained. Two years ago, Dr. F. S. Lee again indicated publicly definite instances in which the antivivisectionists were deluding the public—in pamphlets now sent broadcast these misrepresentations are still present, unchanged. Two years are not enough for the antivivisectionists to learn a proper sense of honor, nor are ten years, nor fifteen, for during these long intervals there has been no attempt of the prevaricators to reconstruct their statements in conformity with the facts.

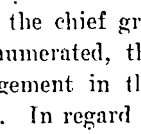
In conclusion, Dr. Cannon points out the fundamental wrong committed by the antivivisectionists, which is the presentation of accounts of medical research without any reference to its motives or its triumphs. They fail to express the important issues of disease and death which depend on the results of medical investigations, and they refuse to recognize that by the sacrifice of some animals the chances for life and health for mankind and for myriads of other animals as well, are enormously enlarged. The accounts of these inestimable blessings which have resulted from animal experimentation are now available to everyone in the pamphlets above referred to published by the American Medical Association.

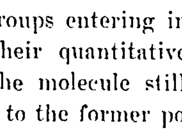
It is clear from the considerations given in this pamphlet that before the antivivisectionists can command the respectful attention of intelligent people they must fundamentally change their tactics. They must clear their literature of the superseded testimony of men long since dead, men who had no conception of the merciful procedures of modern experimentation, or of its life-giving results. They must rid their publications of the testimony of "experts" whose reputations, such as they are, were made in literature, art or theology, and not in medicine. They must purge their propaganda of the fraud and trickery and evil insinuation that have for years characterized it. And the process of making their methods clean and their ways straight should involve paying some respect to the high purpose of biologic investigation and its beneficent achievements for human welfare, which together give meaning and sanction to the experimental use of animals.

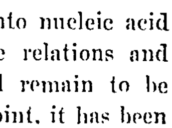
THE CHEMISTRY OF THE NUCLEINS

There is probably no field of science in which greater progress has been made recently than in organic chemistry, and not the least spectacular development of this has been along physiologic lines. Late years have witnessed a fairly adequate solution of the riddle of proteid composition, and in a recent article Kossel,[1] himself among the foremost investigators, summarizes the progress made toward the analysis of a similar problem—the composition of the nucleins. Nuclear materials from manifold sources all indicate these substances as the essential element in the composition of the nucleus; and when the importance of the latter is realized in all processes that are considered most peculiarly vital, the value of the study of the nucleins can be appreciated. In general it has been found that these can be split into two main constituents, a proteid and nucleic acid. The former does not differ radically from proteids from other sources; and it is the composition of the latter that forms the main problem of this particular phase of organic chemistry. By subjecting various nucleic acids to the less powerful means of chemical decomposition, it is possible to obtain certain groups which, by their junction, apparently build up the complex molecule. The nitrogen-containing groups so far found are four in number—thymin, cytosin, guanin, and adenin. The two former have a single, the two latter a double, carbon and nitrogen ring—this last being the so-called purin ring.


Thymin.


Cytosin.


Guanin.


Adenin.

The remaining part of nucleic acid can in turn be broken up into two main constituents—phosphoric acid and a carbohydrate.

Although the chief groups entering into nucleic acid are thus enumerated, their quantitative relations and their arrangement in the molecule still remain to be investigated. In regard to the former point, it has been found that for each of the four nitrogen-containing groups there are in the molecule one each of the carbohydrate and phosphoric acid groups, thus giving at the very least twelve of these simpler bodies for each nucleic acid molecule. Needless to say, the nucleic acids from various sources differ in composition, and there are countless ways in which this may occur. So nucleic acids have been found in which one or more of the four nitrogen-containing groups are absent. The carbohydrate in turn may have only five carbon atoms, instead of the usual six, or conceivably even less.

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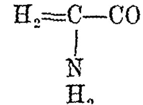
[1] München. med. Wchnschr., 1911, lviii, 65.

The proteid and nucleic acid, forming by their union a nuclein, may vary considerably in the way they are joined. In some cases the union is a feeble one, and in others it is so strong as to offer obstinate resistance to decomposition. One of the chief sources of material for the study of the nucleins has been the heads of spermatozoa of various animals, and it is a peculiar fact that the firm type of union has been found in the sperm nucleins of warm-blooded animals, while lower forms of life have the other type. Unfortunately, not enough work has as yet been done to justify generalization on this point. In those cases in which the proteid molecule has been found loosely held, the union is similar to that of a base and an acid to form a salt. Such proteids are much more strongly basic in character than usual, and the explanation has been found in their chemical composition. The groups forming a proteid molecule are for the most part of the "amido-acid" type—that is to say, they possess an acid as well as a basic, amido (NH_2) radicle. A simple instance of such an amido-acetic acid,  $H_2{=}\underset{\underset{H_2}{N}}{\overset{}{C}}{-}COOH$, in which the COOH group possesses acid, the NH_2 basic properties. In the more complex amido-acids there may be more than one amido group, and it is of this type that the basic proteids—those found loosely bound to the nucleic acid—are composed. Other more complex nitrogen groups, that also impart basic properties to the molecule, occur in them as well, giving these proteids a nitrogen percentage much higher than that of the more usual forms.

It will be seen that considerable progress has already been made toward the solution of the problem of nuclear composition. Since it is the chromogenic—the nuclein—portion of the nucleus that initiates cell division and, according to our present belief, transmits the hereditary functions of all life, the further developments of this subject assume an importance far beyond the scope of the chemical problems involved.

VAN 'T HOFF AND MEDICAL SCIENCE

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If a refutation of these arguments were necessary there could be found no illustration better than that furnished by the entrance of physical chemistry into medical science. How many men who were taught chemistry in the average American medical school by the "practical teacher" two decades ago, or even half as long ago, were given the slightest inkling of the then theoretical subject of physical chemistry? We doubt that there were any — certainly they were few, and fortunate in that their teachers were less "practical" than they were supposed to be. Yet at this time the same graduates, now in their best years, know that progress is being made behind what to them must remain a closed door, unless they have the time and the rare energy to go back and make up one of the many defects in their training, for which not they themselves but a faulty system of education is responsible. None of us can foretell what direction progress will take, and we know not which scrap of theory of to-day will be the foundation of our great advances a few years hence. The plant cells and salt solutions of de Vries and the semipermeable membranes of Traube, unknown to the medical teacher two decades ago, were then pointing out lines of investigation whose fruits are now being reaped by physiology and pathology, and prepared for the clinical medicine of the near future. Therefore we must teach our fundamental sciences as sciences, and provide our students with a grasp of principles which will enable them to understand the new developments in these sciences, rather than equip them with a catalogue of supposedly useful information which may be useless slag by the time their diplomas are framed.

We are impelled to the foregoing reflections by the news of the death of Prof. J. H. van 't Hoff, the eminent Dutch chemist, since 1895 professor of general chemistry in the University of Berlin, and in 1901 awarded the Nobel prize for physicians. His was one of the great minds in which were developed the fundamental ideas which have brought physical chemistry into the foreground during the past quarter of a century, and for the assistance afforded to physiology and pathology over many hard places in their road by this new arm of chemistry must medicine be grateful.

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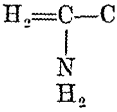
The proteid and nucleic acid, forming by their union a nuclein, may vary considerably in the way they are joined. In some cases the union is a feeble one, and in others it is so strong as to offer obstinate resistance to decomposition. One of the chief sources of material for the study of the nucleins has been the heads of spermatozoa of various animals, and it is a peculiar fact that the firm type of union has been found in the sperm nucleins of warm-blooded animals, while lower forms of life have the other type. Unfortunately, not enough work has as yet been done to justify generalization on this point. In those cases in which the proteid molecule has been found loosely held, the union is similar to that of a base and an acid to form a salt. Such proteids are much more strongly basic in character than usual, and the explanation has been found in their chemical composition. The groups forming a proteid molecule are for the most part of the "amido-acid" type—that is to say, they possess an acid as well as a basic, amido (NH_2) radicle. A simple instance of such an amido-acid is amido-acetic acid,  $H_2{=}\underset{\substack{|\\ N\\ H_2}}{C}{-}COOH$, in which the COOH group possesses acid, the NH_2 basic properties. In the more complex amido-acids there may be more than one amido group, and it is of this type that the basic proteids—those found loosely bound to the nucleic acid—are composed. Other more complex nitrogen groups, that also impart basic properties to the molecule, occur in them as well, giving these proteids a nitrogen percentage much higher than that of the more usual forms.

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COMPRESSED OXYGEN

The report of the Council on Pharmacy and Chemistry in another part[1] of this issue shows how the work of this body is broadening. In the past the Council's reports have dealt with proprietary articles or with nonproprietary drugs which form the basis of proprietary medicines. The present report relates to an entirely different substance—oxygen—which, so far, is one of the few things which have not been appropriated by proprietary medicine houses. The purity of oxygen is a most important matter—more important than the purity of many official drugs—because it is often depended on to save a life that is at its lowest ebb, and where the slightest impurity might have the most serious consequences. While to those unfamiliar with analytical work of this nature, the amount of labor represented by the report of Professors Smith and Leman will not be apparent, it was none the less real. It is gratifying to find men of high standing outside of the profession ready to cooperate with the Council in its efforts to bring about better conditions. The good quality of the oxygen on the American market is a matter for congratulation.

PHYSICIANS AND DREADNAUGHTS

Spectacular heroism usually has a prompt reward in homage and praise; but that is a truer heroism which is unostentatious or unrecognized, because it is not for glory; rather it is an unselfish self-sacrifice. "Those missionary doctors who are going among the stricken natives in an effort to stamp out the plague are as great heroes as any who ever faced the yellow fever in their own country, and more so, because the duty did not come to them. They sought it out." Thus speaks the St. Louis *Star* of the situation in China, and adds this pointed comparison: "The missionary doctor presents a less spectacular picture to the eye than a dreadnaught, but he is a far better messenger for civilization to send to those who dwell in darkness." The spread of the bubonic plague in the East has inspired terror in the inhabitants and foreign visitors and many of the latter have made a hasty departure from the stricken regions. The physicians,[2] as always, are going about combating the pestilence in the most vigorous fashion, uninfluenced by fear or terror; and to compare them with dreadnaughts is indeed appropriate.

FAKES AND THEIR IMITATORS

The success, through advertising, of a nostrum which has little or no special merit, causes a host of imitators to spring up, in the hope of reaping a like profit in humbugging the people. But failure often results, because these imitators do not possess the business shrewdness or the means for advertising which were at the disposal of the original fake. This is emphasized in the March number of the *California State Journal of Medicine* which describes the Viavi fake. Its imitators are clumsy, but "they may be also deadly, as when they imply that cancer may be prevented or cured by the use of their stuff. They all forget that what has made the monumental success of the Viavi fake is not the fake itself—it is the keen, shrewd, cunning brain of the little Law brother, one of San Francisco's most wealthy and distinguished citizens. It is not the three little shells and the elusive little pea that are so valuable to the 'shell game' faker; it is the dextrous way in which he works the fake. The promoters of these clumsy imitators of the Viavi fake will never get to be directors of the Young Men's Christian Association; they have not the guiding genius of the little Law brother to manipulate the fake."

FIRST AID TO INJURED CREDIT

The general advantage to the public of instruction in "first aid to the injured" seems not to have been wholly realized heretofore. In a recent instance, after purchasing some goods in a store, a man offered in payment a check signed by a physician and asserted that he was the physician. The clerk, whose suspicions were aroused, asked the customer to state how many bones there are in the human body. The alleged physician was unable to do so, became confused, was arrested and proved to be an impostor. We hope that the employer appreciates the value of such a clerk. He has learned the first principle underlying first aid to the injured—that prevention is better than cure.

Medical News

ALABAMA

Society Meetings.—Hale County Medical Society, at its annual meeting in Greensboro, elected the following officers: president, Dr. Reuben F. Monette; vice-president, Dr. R. A. White, Jr.; censor, Dr. Edgar P. McCollum, and secretary-treasurer and county health officer, Dr. Charles A. Poellnitz, all of Greensboro; health officer, Dr. Shelby C. Carson for Greensboro; Dr. Elisha N. Driver for Newbern, and Dr. Rufus J. Griffin for Moundsville.——Dallas County Medical Society, at its annual meeting, held in Selma, elected the following officers: Dr. William W. Harper, Selma, president: Dr. Lawrence H. Moore, Orrville, vice-president; Dr. James S. Chisholm, Selma, secretary, and Dr. Samuel B. Allison, Carlowville, county health officer.

CALIFORNIA

Milk Commissions to Meet.—The third annual meeting of the California Association of Medical Milk Commissions will be held at Santa Barbara during the meeting of the State Medical Society which convenes April 18. The chief subject to be discussed at the meeting will be "Bovine Tuberculosis in Relation to Public Health." Papers on this subject will be read by Dr. George S. Baker, inspector in charge of the Bureau of Animal Industry, United States Department of Agriculture: Dr. C. M. Haring, professor of veterinary science in the University of California: Dr. M. E. Jaffa, professor of agricultural chemistry in the University of California, and Dr. Chester Roadhouse, formerly United States Meat Inspector, and expert to the San Francisco County Medical Milk Commission. Physicians, sanitarians and producers and consumers of milk are invited to attend the meeting.

ILLINOIS

Supreme Court Decision.—By a recent ruling of the supreme court in the case of *The People vs. Wilson, paragraph* 12 of the Medicine and Surgery Act is declared unconstitutional. This section has to do with the licensing of itinerant vendors of patent and proprietary medicines, which makes it necessary for such persons to pay a license of $100 a month for the privilege of selling medicines.

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[1] N. N. R., page 813; Propaganda for Reform, page 833

[2] In this connection it will be of interest to note a letter from a missionary physician in China which appears in our Correspondence Department in this issue.

Personal.—Dr. Frederick A. Renner has been appointed local surgeon of the Illinois Traction System Hospital Association and of the Illinois Traction System at Benld.——Dr. Charles G. Beard, Sterling, has been appointed local surgeon for the Burlington System at Sterling and Rock Falls.——Dr. N. E. Wayman, Chicago, has been appointed state bacteriologist, vice Dr. William H. Holmes, resigned.

Chicago

Dismissal Confirmed.—Twelve members of the Board of Managers of Mary Thompson Hospital met, March 4, and confirmed the dismissal of seven members of the staff and two interns, who are said to have threatened to disrupt the hospital if they were not reinstated.

Get Together Banquet.—At the get together banquet, held March 9, by the Chicago Retail Druggists' Association, members of the Chicago Medical Society and the Chicago Odontographic Society were entertained. Dr. Alexander Hugh Ferguson presided as toastmaster. Harmony was the dominant note of the meeting.

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COMPRESSED OXYGEN

The report of the Council on Pharmacy and Chemistry in another part[1] of this issue shows how the work of this body is broadening. In the past the Council's reports have dealt with proprietary articles or with nonproprietary drugs which form the basis of proprietary medicines. The present report relates to an entirely different substance—oxygen—which, so far, is one of the few things which have not been appropriated by proprietary medicine houses. The purity of oxygen is a most important matter—more important than the purity of many official drugs—because it is often depended on to save a life that is at its lowest ebb, and where the slightest impurity might have the most serious consequences. While to those unfamiliar with analytical work of this nature, the amount of labor represented by the report of Professors Smith and Leman will not be apparent, it was none the less real. It is gratifying to find men of high standing outside of the profession ready to cooperate with the Council in its efforts to bring about better conditions. The good quality of the oxygen on the American market is a matter for congratulation.

PHYSICIANS AND DREADNAUGHTS

Spectacular heroism usually has a prompt reward in homage and praise; but that is a truer heroism which is unostentatious or unrecognized, because it is not for glory; rather it is an unselfish self-sacrifice. "Those missionary doctors who are going among the stricken natives in an effort to stamp out the plague are as great heroes as any who ever faced the yellow fever in their own country, and more so, because the duty did not come to them. They sought it out." Thus speaks the St. Louis *Star* of the situation in China, and adds this pointed comparison: "The missionary doctor presents a less spectacular picture to the eye than a dreadnaught, but he is a far better messenger for civilization to send to those who dwell in darkness." The spread of the bubonic plague in the East has inspired terror in the inhabitants and foreign visitors and many of the latter have made a hasty departure from the stricken regions. The physicians,[2] as always, are going about combating the pestilence in the most vigorous fashion, uninfluenced by fear or terror; and to compare them with dreadnaughts is indeed appropriate.

FAKES AND THEIR IMITATORS

The success, through advertising, of a nostrum which has little or no special merit, causes a host of imitators to spring up, in the hope of reaping a like profit in humbugging the people. But failure often results, because these imitators do not possess the business shrewdness or the means for advertising which were at the disposal of the original fake. This is emphasized in the March number of the *California State Journal of Medicine* which describes the Viavi fake. Its imitators are clumsy, but "they may be also deadly, as when they imply that cancer may be prevented or cured by the use of their stuff. They all forget that what has made the monumental success of the Viavi fake is not the fake itself—it is the keen, shrewd, cunning brain of the little Law brother, one of San Francisco's most wealthy and distinguished citizens. It is not the three little shells and the elusive little pea that are so valuable to the 'shell game' faker; it is the dextrous way in which he works the fake. The promoters of these clumsy imitators of the Viavi fake will never get to be directors of the Young Men's Christian Association; they have not the guiding genius of the little Law brother to manipulate the fake."

FIRST AID TO INJURED CREDIT

The general advantage to the public of instruction in "first aid to the injured" seems not to have been wholly realized heretofore. In a recent instance, after purchasing some goods in a store, a man offered in payment a check signed by a physician and asserted that he was the physician. The clerk, whose suspicions were aroused, asked the customer to state how many bones there are in the human body. The alleged physician was unable to do so, became confused, was arrested and proved to be an impostor. We hope that the employer appreciates the value of such a clerk. He has learned the first principle underlying first aid to the injured—that prevention is better than cure.

Medical News

ALABAMA

Society Meetings.—Hale County Medical Society, at its annual meeting in Greensboro, elected the following officers: president, Dr. Reuben F. Monette; vice-president, Dr. R. A. White, Jr.; censor, Dr. Edgar P. McCollum, and secretary-treasurer and county health officer, Dr. Charles A. Poellnitz, all of Greensboro; health officer, Dr. Shelby C. Carson for Greensboro; Dr. Elisha N. Driver for Newbern, and Dr. Rufus J. Griffin for Moundsville.——Dallas County Medical Society, at its annual meeting, held in Selma, elected the following officers: Dr. William W. Harper, Selma, president; Dr. Lawrence H. Moore, Orrville, vice-president; Dr. James S. Chisholm, Selma, secretary, and Dr. Samuel B. Allison, Carlowville, county health officer.

CALIFORNIA

Milk Commissions to Meet.—The third annual meeting of the California Association of Medical Milk Commissions will be held at Santa Barbara during the meeting of the State Medical Society which convenes April 18. The chief subject to be discussed at the meeting will be "Bovine Tuberculosis in Relation to Public Health." Papers on this subject will be read by Dr. George S. Baker, inspector in charge of the Bureau of Animal Industry, United States Department of Agriculture; Dr. C. M. Haring, professor of veterinary science in the University of California; Dr. M. E. Jaffa, professor of agricultural chemistry in the University of California, and Dr. Chester Roadhouse, formerly United States Meat Inspector, and expert to the San Francisco County Medical Milk Commission. Physicians, sanitarians and producers and consumers of milk are invited to attend the meeting.

ILLINOIS

Supreme Court Decision.—By a recent ruling of the supreme court in the case of The People vs. Wilson, paragraph 12 of the Medicine and Surgery Act is declared unconstitutional. This section has to do with the licensing of itinerant vendors of patent and proprietary medicines, which makes it necessary for such persons to pay a license of $100 a month for the privilege of selling medicines.

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[1] N. N. R., page 813; Propaganda for Reform, page 833.

[2] In this connection it will be of interest to note a letter from a missionary physician in China which appears in our Correspondence Department in this issue.

Personal.—Dr. Frederick A. Renner has been appointed local surgeon of the Illinois Traction System Hospital Association and of the Illinois Traction System at Benld.——Dr. Charles G. Beard, Sterling, has been appointed local surgeon for the Burlington System at Sterling and Rock Falls.——Dr. N. E. Wayman, Chicago, has been appointed state bacteriologist, vice Dr. William H. Holmes, resigned.

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Hospital Notes.—Physicians of Babylon desire the establishment of a hospital in that village. The nearest hospital at present is that at Hempstead. The Board of Trade of Babylon has adopted a resolution favoring the project.——Auburn City Medical Society has adopted a resolution favoring the conversion of the present municipal hospital into a sanatorium for the care and treatment of tuberculosis patients.——Herkimer Emergency Hospital was obliged to close its doors, March 1, on account of financial stress. It is hoped that the hospital can be reorganized on a satisfactory basis.

New York City

Donation to Hospital.—Mr. Adolphus Busch, on the occasion of his golden wedding, March 7, donated $5,000 to the Children's Hospital.

Last Harvey Society Lecture.—The last lecture in the Harvey Society course will be delivered at the New York Academy of Medicine, April 1, by Dr. S. Weir Mitchell, Philadelphia, and will be "A Lecture on William Harvey, the Discoverer of the Circulation of the Blood."

Hospital in Hotel.—A unique feature in a new hotel now in the course of construction at Thirty-Fourth Street and Broadway, will be a hospital so arranged as to accommodate twelve patients at one time. This hospital is to be situated on the twenty-third floor of the hotel.

Department of Health Bulletin.—The Department of Health of the City of New York has undertaken the publication of a monthly bulletin which is supplied free of cost. The bulletin is intended for the information of public health officials, physicians and laymen interested in health problems, and will contain in each issue editorials and special articles dealing with various phases of public health work. The bulletin will appear about the fifteenth of each month.

Bellevue Overcrowded.—In this institution, whose normal capacity is 1,050, the average census for February was 1,200. On March 2 the number of patients was 1,330, the highest in the history of the institution. The authorities complain that they have been unable to transfer patients to the Metropolitan or the City Hospital for several weeks as these institutions are also overcrowded. The charter of Bellevue provides that whenever a case ceases to be a proper one for treatment at Bellevue, it shall be transferred to the Metropolitan or City Hospital on Blackwell's Island and a meeting of the trustees has been called to request the city to make some provision for patients from Bellevue.

Reorganization of Hospital.—At the reorganization of St. Mark's Hospital, March 7, the following new board of directors was elected: president, Dr. Benjamin T. Tilton; vice-president, Dr. Alexander Shulman; secretary, Dr. Andrew Von Grimm, and Drs. Otto Maier, Caesar A. Von Ramdohr and Charles R. L. Putnam. The following were added to the medical board: Drs. Benjamin T. Tilton and Charles R. L. Putnam, visiting surgeons; Dr. Andrew Von Grimm, visiting gynecologist; Dr. Otto Maier, visiting pediatrician and obstetrician; and Dr. Harry G. Watson, attending physician and visiting gastro-enterologist to St. Mark's Hospital Dispensary. Dr. Carl Beck resigned as visiting surgeon.

Medical Conferences.—Conferences have been arranged by the Educational Alliance with the endorsement of the Comitia Minora of the Medical Society of the County of New York and of the Council of the New York Academy of Medicine. They are given in the Auditorium, 197 East Broadway, corner Jefferson Street, at 8:30 p. m. On March 30, Dr. Henry C. Coe will speak on "Gynecological Operations by the General Practitioner." On April 9, Dr. Albert A. Berg will speak on "Lodge and Contract Practice." On April 17, Dr. Wm. M. Polk will speak on "Medical Ethics and Their Application to Practice." On April 23, Dr. Joseph Brettauer will speak on "The Secret Division of Fees." On April 27, Dr. Sigismund S. Goldwater will speak on "Abuses of Hospital and Dispensary Practice." These lectures are for physicians only.

NORTH CAROLINA

District Society Meeting.—The Fourth Councilor District Medical Society held its annual meeting in Wilson, February 14. The following officers were elected: president, Dr. James J. Philips, Tarboro; vice-presidents, Drs. William Spicer, Goldsboro, and Lacy D. Wharton, Smithfield, and secretary-treasurer, Dr. Michael M. Saliba, Wilson (reelected). The next meeting of the society will be held in Smithfield.

McCormack in North Carolina.—Dr. Joseph N. McCormack, Bowling Green, Ky., delivered an address before the North Carolina Association for the Prevention of Tuberculosis, and the members of the state legislature, Raleigh, February 1. At the conclusion of the address, State Senator Boyden, leader of the majority, rose, and in words of strong commendation told Dr. McCormack to have the physicians ask for what was needed to carry out the principles of public sanitation advocated by him, and the appropriation would be forthcoming. During the following week, Dr. McCormack in company with Dr. Chalmers M. Poole, Salisbury, president of the Medical Society of North Carolina, visited a number of the larger cities of the state and addressed large audiences.

Responsibility of Hotel Keepers.—The Supreme Court of North Carolina has recently handed down an opinion of possible interest to sanitarians, in the case of Patrick vs. Springs. Action was brought in the superior court several months ago against the keeper of a hotel in Washington, N. C., for damages suffered by the plaintiff by reason of having been assigned to an unsanitary room in which there was an unsafe or leaky gas fixture. The lower court awarded the plaintiff $250, and this award was sustained by the opinion of the supreme court, which was as follows: "It seems now to be well settled that in case of an injury occurring in consequence of the unsanitary and defective condition of the inn, premises or room to which a guest is assigned, the innkeeper is liable on the same principles applicable in other cases where persons come on the premises at the invitation of the owner or occupant and are injured in consequence of their dangerous condition."

OHIO

Personal.—Drs. Oscar Hasencamp, Toledo; Henry T. Sutton, Zanesville, and Robert H. Grube, Xenia, have been appointed members of the State Board of Health.——Dr. Thomas M. Sabin has been reelected president, and Dr. Frederick K. Smith, secretary of the staff of the Warren City Hospital.——Dr. Andrew J. Timberman, Columbus, is reported to be seriously ill with septicemia, due to an operation wound.

Tuberculosis Workers Incorporate.—The Columbus Society for the Prevention and Cure of Tuberculosis was incorporated March 4. The charter gives the society the right to acquire property, erect a hospital, employ nurses for patients, and teach methods of combating the disease. The prime object is to open the fresh-air school for which option on the Guerr Park property has been taken. Of the $5,500 required for this project, $3,600 has already been subscribed.

New National Guard Surgeons.—Dr. Edwin A. Hamilton, Columbus; John R. McDowell, Zanesville; James C. Pence, Lima; Don C. Hughes, Findlay, and Edward J. Wilkinson, Toledo, have passed the promotional examination and have been commissioned captains and assistant surgeons, M. C. O. N. G. Drs. Elijah J. Gordon, Columbus; Charles W. Stone, Cleveland, and Paul W. Tappan, Dayton, have passed the examination and have been commissioned first lieutenants and assistant surgeons in the medical corps.

Addition to Hospital.—Flower Hospital, Toledo, is about to award the contract for a new building which will more than quadruple the present capacity. The new building will contain ninety rooms and will cost about $100,000. The new staff of the hospital is made up as follows: chief of staff, Dr. Sidney D. Foster; surgical chief, Dr. Charles N. Smith; medical chief, Dr. Willard J. Stone; surgery, Drs. Sidney D. Foster, Albert F. McVety, Homer H. Heath and Clarence D. Selby; gynecology, Drs. Charles N. Smith, C. W. Worts and Joseph F. Fox; medicine, Drs. Willard J. Stone and Charles F. Tenney; pediatrics, Dr. George L. Chapman; eye, ear, nose and throat, Drs. Charles Lukens and Walter H. Snyder; obstetrics, Dr. William G. Dice; nerves, Dr. Louis Miller; dermatology, Dr. Edwin D. Tucker, and *x*-ray, Harry Dachtler.

Cleveland

Midwife Imprisoned.—Mrs. Annie Smith, a midwife of Cleveland, is said to have been committed to the workhouse for failure to report a case of ophthalmia neonatorum.

Personal.—Dr. Albert M. Dunlap, ward physician of the Eleventh Ward, is reported to be seriously ill with scarlet fever, contracted while attending a case in his district.——Dr. Hal F. Bishop, Cleveland, was committed to the Cleveland State Hospital for the Insane, March 6.——Dr. Charles M. Simpson has returned from abroad.

Hospital Notes.—Charity Hospital is endeavoring to raise $210,000, $150,000 of which will be used to erect a new surgical ward, and the remainder to liquidate a debt of the institution.——A site has been secured by Lakeside Hospital, on which a maternity and children's hospital will be erected. Work on these will be started this year.

PENNSYLVANIA

Electrocution Bill Passes House.—The Morris electrocution bill passed the house on final reading on March 9 and was presented to the senate on March 12. The bill provides for the substitution of the electric chair for the gallows in carrying out the death penalty.

Women Elect New Officers.—At the annual meeting of the Woman's Medical Association of Pittsburg, held February 28, Dr. Caroline S. Marshall was elected president; Dr. Bertha E. Dornbush, vice-president; Dr. Elizabeth Anderson, secretary, and Dr. Johanna Baltrusaitis, treasurer.

Charity Home Fund.—Mrs. Eckley B. Coxe, on March 1, contributed $2,000 to the fund being raised for a United Charities Home in West Hazleton. Her subscription was the first received. The organization is attempting to raise $15,000.

Site for Convicts' Hospital.—Robert J. McKenty, warden of the Eastern Penitentiary, Dr. Samuel Dixon, State Health Commissioner, and John Francis, warden of the Western Penitentiary, form a committee of three, provided for by a bill introduced into the senate by Mr. McNicholls of Lackawanna County, to visit Far View, Wayne County, to select a site for a hospital in which tuberculous convicts will be segregated.

Railway Fatalities.—Statistics gathered by the State Railway Commission show that during January, 87 persons were killed and 664 injured on the steam railroads of the state. Of the fatalities, 34 were employees, 2 passengers, 48 trespassers and 7 others. There were 8 deaths at grade crossings. During the same period, there were 13 killed on the street railways and 272 injured. Of the killed, 5 were trespassers and 8 others.

Conflict Between Health Department of State and City.—A conflict between the State Health Department and the Lancaster Board of Health has resulted in the arrest of Dr. J. Miller Shartle, Lancaster, state registrar. A local ordinance requires that physicians shall report deaths to the City Board of Health. Dr. Shartle holds that having reported to the State Health Department, he had fulfilled all legal obligations. As it is desirous to determine the authority of the state, in the premises, Dr. Shartle will be represented by counsel from the attorney general's department.

To Investigate Rittersville State Hospital.—An investigation of the construction of the Homeopathic State Hospital for the Insane at Rittersville, is provided for in a resolution presented to the senate, February 27, by Senator Judson. The resolution, which is referred to the judiciary special committee, recites that more than $1,700,000 of the State's money has been expended by the commission appointed to construct the institution; that the hospital is not yet completed, and has never housed or treated a patient, although the commission has been in existence since 1901. The resolution provides for the appointment of a committee which shall make a full investigation of the matter and hold public hearings.

Fireworks Manufacturers Favor Sane Fourth.—The Pennsylvania manufacturers of fireworks have volunteered to support the bill that has been presented to the legislature for the restriction of the sale and use of high explosives. The bill was formulated by the president of the Philomusian Club, who has been assured by virtually all the large dealers in fireworks in the state that, although the bill will certainly injure their trade, they feel it such a needed protection for children that the bill will not be contested, and its success therefore seems assured. The bill is aimed principally against the blank cartridge and provides that no blank cartridge, pellet or tablet, composed of chlorate of potash, dynamite or other high explosive compounds, shall be used in pistols, hollow canes or other toys for explosive purposes; that no fireworks containing gunpowder or like explosive material shall be over 6 inches in length and that no firecrackers containing gunpowder or like explosive materials shall be over 6 inches in length, and that firecrackers from 3½ to 6 inches long shall not be more than ¾ of an inch in diameter. The bill also aims to prevent manufacturers from importing the materials above mentioned from other places.

Philadelphia

Personal.—Dr. Harry Toulmin sailed for Europe, March 11. ——Dr. Helen Kirshbaum was operated on for appendicitis in the German Hospital, March 2

Trichinosis Prevalent.—It is reported that trichinosis is again prevalent in this city, causing at least one death during the past week. It is believed that the meat containing the trichinosis germ has been sold principally in the southeastern sections of the city as the majority of cases have been reported from that district.

The Midwife Abuse.—The weekly roster of the medical organizations of Philadelphia states that "a serious problem that soon must be solved by the Philadelphia profession is the present inadequate requirements for licensing of so-called midwives. This lawless element is a large factor in the growing crime of criminal abortion and must be controlled or perhaps suppressed. The Board of Health censured a local physician as recently as last week, for his carelessness in recommending certain women for licensure of this kind."

Cocain Users Sentenced.—A raid on a house at Thirteenth and Kenilworth Streets on March 8, resulted in the arraignment of seven alleged cocain users before Magistrate Barrett the next day. Mulvena Winter and Robert Sampson, colored, keepers of the house, were held in $500 bail each, for court, charged with obtaining and selling cocain among the colored people. Two men and two women, colored, were given three months each in the House of Correction. A white man also arrested at the house was given 6 months.

Dealers Oppose Milk Test.—On March 8, the "Downtown" Milk Dealers Association met in Ritter's Hall to protest against a bill introduced in the legislature by Representative McGuire, of Lackawanna County, providing for a 60 degree test in milk and for pasteurization of all milk. They declared that a 60 degree minimum temperature requirement would be an impossibility in the summer months, that the farmers oppose it and the railroads, by furnishing refrigerating cars, will raise rates, thereby forcing an increase in the retail price of milk.

Eulogium on Dr. Kelly.—At a special meeting of the faculty of the Woman's Medical College of Pennsylvania, March 3, a minute was adopted on the death of Dr. Aloysius Oliver Joseph Kelly, formerly professor of pathology in that institution, setting forth their appreciation of his rare mental qualities and his judicial character. He was from the first a leader in the cause of advanced medical education. He was a rare combination of amiability and strength, of a peace-maker and a combatant. He was most esteemed by those who knew him best.

Pure Food Work.—Gorgonzola cheese, imported into this city from Italy, has been found to bear a thick coating of paint said to contain barytes or barium sulphate with iron rust sprinkled on it for color. These cheeses were analyzed by Charles H. LaWall, Department Chemist.——On February 28, the federal agents confiscated 10,800 packages or 1,350 pounds of alleged impure gelatin at a wholesale grocery store on South Front Street.——On March 1, S. Sklaroff and Sons, smoked fish dealers, paid to Magistrate Beaton four fines amounting to $265, for selling smoked fish said to have been dyed.

Plans for Immigrant Hospital.—Plans for utilizing the upper deck of the new Vine Street Pier, or perhaps building a third deck to the pier to be equipped for a detention hospital for immigrants, was considered at a conference held February 27 and attended by Mayor Reyburn, Director Neff of the Department of Health and Acting Director Hasskarl, of the department of wharves, docks and ferries. A great many cases of contagious diseases, not extraditable under the quarantine laws, are brought into the city by immigrants exposing the public to risk. It is planned that all immigrants who show any symptoms of illness shall be detained at this new hospital for treatment and observation.

Pupils Begin Lunch Test.—At the request of the Home and School League, 50 children of the Woods School have been selected for experimental purposes, that is they are to be given warm luncheons at recess time, consisting of soup, stewed fruits, cocoa and bread for the period of a month. Since November, the League has been serving a three-cent lunch in two schools. As the children are unable to secure the luncheons daily, however, the league is determined to prove the value of the institution by providing the food free for fifty children and, by comparing their condition before and after the lapse of a month, obtain the needful argument in favor of the substantial lunch. These children have been subjected to a strength test, been weighed and careful notation of their physical condition made. The lunches will be varied each day and only the most nutritious food will be served.

Open-Air Schools to be Established.—Through the aid of the Phipps Institute, the first open air school for tuberculous children will be opened on the roof of the McCall School, April 1. March 8. Alexander Wilson, secretary of the social service department of the Phipps Institute, met the elementary school committee and offered in the name of the institute to provide the equipment and organize the class if the board would allow the use of the school roof and furnish a teacher. The roof will be furnished with needed protection at the expense of the institute and the children will be provided with extra clothing. It will be conducted on the lines of a hospital with given hours for recreation, light occupation and study. Cots will be provided where the children will be required to rest at stated intervals and milk and eggs will be fed to them. Another class of less advanced cases will be conducted in an open air room of the Jackson School at Twelfth and Federal Streets. Director Neff has notified the committee that the State Antituberculosis Association has in its possession about $2,000 as its share of the proceeds of the Fairmount Park automobile races which could be used for this purpose.——Residents of South Philadelphia have begun an agitation in favor of an open-air school for children of their section, who may be suffering from tuberculosis or threatened with the disease.

TENNESSEE

New Methodist Hospital—Plans are being formulated by the members of the Memphis, White River, North Mississippi and Mississippi conferences of the Methodist Episcopal Church, South, to erect a hospital in Memphis to cost $250,000.

Health Board Appointments.—At a meeting of the Nashville City Board of Health, Dr. William E. McCampbell was elected chairman, vice Dr. W. Frank Glenn. The board has reelected Dr. R. Logan Jones as city bacteriologist and chemist; Dr. John T. Altman has been reappointed a member of the board.

Closer Union of Medical Schools.—Two years ago the Medical Department of the University of Nashville was united with the Medical Department of the University of Tennessee, taking the name of the Medical Department of the Universities of Nashville and Tennessee. The union, however, was only for a limited number of years. Efforts are now being made, according to reports, to secure legislation making this union permanent.

TEXAS

Quarantine Fees for Hospital.—The Medical College of the University of Texas, at Galveston, is asking the legislature to grant the use of the quarantine fees at Galveston for the establishment and maintenance of a hospital in connection with the quarantine station at that point.

Yellow Fever in Mexico.—Reports of yellow fever in Mexico have caused the state health board alarm, and it is likely that a rigid quarantine will at once be established. On March 8, the state health officer, Dr. Ralph Steiner, went to Brownsville, on the Mexican border, to investigate the situation.

Health Bills.—The Texas Legislature is being asked to enact a law providing for the establishment of a state tuberculosis sanitarium; one to prohibit the use of public drinking cups; one to give the so-called "optometrists" a monopoly of the glass-fitting business, and one to perform on criminals and defectives the operation of vasectomy. Nearly all of these measures will die on the calendar.

Enacting a Sanitary Code.—The Texas legislature, now in session, will enact into law the sanitary code for Texas, which has had thus far only quasi-constitutional standing, in that the legislature at first sought to delegate to the state health board authority to enact the code. In Texas the legislature cannot delegate authority to make laws, so it has been difficult hitherto to make fines hold in the case of violators of the health laws. The bill has been unanimously passed by the senate and will undoubtedly receive similar treatment in the house, and the signature of the governor.

Distribution of Diphtheria Antitoxin.—State Health Officer Dr. Ralph Steiner, Austin, has just made arrangements whereby the state health board, is enabled to distribute diphtheria antitoxin at exceedingly low prices for the benefit of city and county health officers and other physicians who desire antitoxin for indigent patients. The state health officer will handle no funds, but will merely hold the antitoxin subject to the order of those who will be directly responsible to the manufacturing company. It is hoped that city and county administrators will take suitable official action for the free distribution of diphtheria antitoxin.

Hookworm Campaign.—Wickliffe Rose, secretary of the Rockefeller movement against the hookworm, has just conferred with the state health authorities, relative to the perfecting of a plan for the extermination of the parasite in Texas. Last fall Governor Campbell disapproved the plan to accept Rockefeller's aid, saying that Texas can better endure the hookworm than to lay itself debtor to Rockefeller. Governor Colquitt may entertain similar views. State Health Officer Dr. Ralph Steiner, however, will exert every energy to secure a portion of the Rockefeller fund. Recent investigations among the students of the medical branch, at Galveston, of the University of Texas, revealed the fact that 43 per cent. of the students are afflicted with uncinariasis.

WYOMING

Personal.—Dr. John B. Tyrrell, Laramie, has been appointed a member of the State Board of Medical Examiners, vice Dr. Samuel B. Miller, Laramie, resigned. Dr. Miller has moved to California.——Dr. W. W. Vance, recently appointed a member of the board of health of New Castle, at the organization of the board, was elected secretary.

FOREIGN NEWS

Northland Congress of Internal Medicine.—The seventh Scandinavian congress for internal medicine is to be held early in July, 1911, at Bergen.

International Congress of Pathology.—The date of this international gathering of pathologists has been fixed as Oct. 2-5, 1911; Turin is the place of meeting. The notices are being sent out by Prof. P. Foa, Corso Raffaello 30, Turin, in the name of the Societa Italiana di Patologia.

International Congress of Surgery.—The third congress of the International Surgical Association is to be held at Brussels Sept. 26-30, 1911, with an exhibition of fractures and methods of treatment in addition to the usual exhibition of surgical instruments and appliances. The three subjects to be discussed are surgery of the lungs and pleura, colitis and pancreatitis. Prof. Depage is the secretary general, Avenue Louise 75, Brussels, Belgium.

The Plague Abroad.—Cable despatches of March 13 state that with the exception of Mukden, the rate of mortality from the plague is decreasing in all the affected districts in Manchuria and China. Egypt reported 37 cases of plague, with 13 deaths, in the week ending February 10, while India reported 15,003 cases with 12,143 deaths in the week ending January 14. Russia has renewed her demand to be allowed to conduct the quarantine along the border and China has replied in favor of a dual quarantine, similar to that maintained in conjunction with the Japanese along the western boundary of Korea. The first cases of plague among hoofed animals are reported from the Fushan collieries, where bacilli were found in the carcasses of donkeys.

The Campaign Against Rats at Buenos Aires.—The *Semana Medica* opens the new year with the illustrated official report of the methods in use at Buenos Aires for extermination of rats. The work is centralized and squadrons are despatched to the premises to be attacked. They wall them off with sheet zinc and inside the buildings and yards use asphyxiating gases pumped into the rat-holes and tunnels through a hose from the generating cart or hand apparatus. The gas is produced by combustion of sulphur and arsenic or sulphurous acid gas is generated by the Marot apparatus which, the report says, is proving more and more valuable every day; it kills the rats and the insects on and about them while, properly managed, it is free from danger for the men and the building. A good rat dog is also regarded as indispensable for each squad of four men. The main point is to locate the actual breeding place, tracing the rats back from hole to hole until their permanent home is reached. The force of 100 men, supplemented by ten carpenters and masons, has become very efficient. The city is considered one of the most difficult to free from rats on account of the numerous livery and other stables and grain warehouses. The public garbage dumps are also great breeding places for rats; the dumps are now walled in with sheet zinc and incinerators are soon to be installed. The rats seem to prefer to make their permanent nests in vacant lots and gardens and particularly in chicken coops, near buildings to which they repair in search of food. The nests were sometimes found three feet and more underground. It is generally found necessary to take up part of the floor, to remove the rats asphyxiated by the gas. On suspicion of plague, cement is used to rat-proof the premises. The latest records given show from 12,000 to 14,000 rat holes thus cleared out each month with from 6,000 to nearly 9,000 rats killed. Dr. P. G. Rivero, who is in charge of the public health service which includes the deratization, does not approve of offering premiums for rat-killing, as untrained persons are not competent to exterminate the rats and in time of epidemics do not take precautions against infection from them, while there is danger that rats may be bred for the bounty. Poisons and traps are of little use.

CANADA

Club Election.—Dr. Adam H. Wright has been elected president of the Æsculapian Club, Toronto; Dr. George Elliott, secretary and Dr. Edmund E. King, treasurer.

Militia Surgeons Elect.—The medical officers of the militia of Canada met in Ottawa on February 24. Major Edward A. Lebel, Quebec, was elected president and Captain L. S. MacKid, Calgary, Alta, secretary.

New Medical Journal.—The *Western Medical News* appeared in January as the successor of the *Saskatchewan Medical Journal*. The new journal is announced as the official organ of the Alberta and Saskatchewan medical associations.

Medical Reciprocity.—In a bill which will shortly be presented to the legislature by Mr. Mousseau of Soulanges, the endeavor is made to place medical men in the Province of Quebec and other provinces on an equal footing, providing these provinces accept medical certificates issued in Quebec. At present there is no reciprocity between the various provinces of the dominion.

Hospital News.—The Vancouver, B. C., general hospital treated 4,184 patients in 1910 as against 3,042 in 1909. The number of patients admitted during that year was 3,983. The percentage of deaths was 5.87. The Montreal General Hospital treated in the wards 3,586 patients, an increase of 284 over the previous year. There were 272 deaths. In the out-door departments the total number treated amounted to 13,588.

Registration Legislation.—There is every prospect of the bill before the House of Commons to provide for Dominion Registration becoming a law. British Columbia, Saskatchewan and Alberta, which have no universities teaching medicine, cannot have any university representation on the Dominion Council, but two of the three councilors the Government will name, will be appointed from these provinces until the teaching of medicine is begun there.

Report on Tuberculosis.—The report of the Royal Commission on Tuberculosis appointed by the Quebec Government, has been presented to the Legislature. The document gives very explicit and definite recommendations as to the most practical and efficacious measures to adopt to combat the white plague. It is signed by Drs. Emmanuel P. Lachapelle, J. George Adami, both of Montreal; Michael J. Ahern, Quebec; Thomas G. Roddick, James J. Guerin, both of Montreal, and other prominent physicians of Quebec.

Personals.—Dr. Harry B. Anderson, Toronto, has gone abroad to work at the von Noorden clinic.——Dr. E. G. Kidd has been appointed chief of the anatomical department of Queen's University medical department, in succession to Dr. Frederick Etherington, Kingston.——Drs. Helen MacMurchy, Estella O. Smith, Frederick S. Minns, C. E. Hill, George A. Winters, F. G. Munn and William Morrison have been appointed assistant medical inspectors of schools in Toronto.——Dr. Charles H. Frooman, Winnipeg, late superintendent of the Manitoba Tuberculosis Hospital has been appointed superintendent of the Tranquille, B. C., institution.——Dr. J. Alexander Hutchison, chief surgeon of the Grand Trunk system, Montreal, is spending a holiday in the Mediterranean.

LONDON LETTER

(*From Our Regular Correspondent*)

London, Feb. 25, 1911.

Small-Pox in London

An outbreak of small-pox has occurred in the east end of London, and there are now twenty-five cases. The first patient was a Jewess, aged 12, who was admitted to the Mile-End Infirmary, February 5, after a few days' illness, suffering from an eruption. She was treated in one of the general wards till February 22, when the fact that other patients in the ward became ill led to a correct diagnosis. She was sent to the Small-Pox Hospital: soon after a patient from the same ward, a nurse, and a woman who scrubbed the ward were also sent to the Small-Pox Hospital. Another nurse was soon found to be affected. The nurses attacked had not been revaccinated. Three sisters of the first patient were found later to be affected with the disease. In all, eighteen cases arose in the infirmary. The ward in which the outbreak began has been isolated and its inmates have been detained under inspection for a fortnight. Every endeavor is being made to trace all persons who have been brought in contact with the disease, and extensive arrangements have been made for vaccination in the district. Small-pox in London shows great fluctuation. From time to time the disease is imported and gives rise to more or less serious epidemics. From 1885 to 1901 there was a period of comparative freedom, the number of cases falling as low as twenty-nine in 1899. In 1901 an epidemic of 1,700 cases occurred, which was followed by 7,796 in 1902. Since that year the disease has almost disappeared. In 1907 there were only eight cases and in 1908 four cases. In 1909 there were fifteen. The large number of unvaccinated persons, the result of the pernicious antivaccination campaign, is a cause of anxiety. The epidemic of 1901-2 gave a great impetus to vaccination, but this has now largely exhausted itself. In the locality of the present outbreak it is estimated that 32 per cent. of the children are unvaccinated.

Plague in India

The latest estimate of the ravages of plague in Manchuria gives 19,000 deaths in four months, and suggests comparison with India, where the disease has existed since 1896, and probably has caused no fewer than 9,000,000 deaths. In 1907 the death-roll culminated in the appalling figure of 1,300,000. Since that year there has been a remarkable decline. In the week ended Jan. 14, 1911, there were 12,943 deaths, and in the following week there were 20,157. There is one great difference between the pandemic in India and in Manchuria. In the former country the disease has taken the bubonic form, in the latter the pneumonic, and is, therefore, hardly less fatal to Europeans than to Asiatics. But, as the figures show, plague in India is much more deadly. Again, pneumonic plague is a winter disease, while the bubonic form increases during the first three or four months of the year and reaches a maximum in March or April.

The Eating of Cordite

During the late South African war a new drug habit came to light. Owing to the dearth of matches, the soldiers got into the habit of using the little rods of the new explosive, cordite, with which their cartridges were loaded, in order to light their pipes. By igniting one at a comrade's pipe other pipes could be lighted. Some of the men found that inhalation of the fumes of burning cordite had a narcotic effect. This led to the taking of cordite by the mouth, either solid or dissolved in tea. In those unaccustomed to the drug, even a small dose causes most unpleasant symptoms, chiefly severe headache, but those accustomed to the drug can swallow the whole contents of a cartridge. The face flushes, the head seems to swell, and after about a quarter of an hour the subject falls into a deep sleep. On awaking he suffers from thirst and headache. When taken in hot tea, cordite produces delirium, followed by sleep. Opium and alcohol taken in small quantities are used as "pick-me-ups" after cordite eating; and, inversely, cordite is used as a reviver after alcoholic intoxication. From the long use of cordite optic and mental delusions, timidity, weakness and a general breakdown, moral and physical, result.

Another Expedition Despatched by the Liverpool School of Tropical Medicine

The Liverpool School of Tropical Medicine has despatched its twenty-seventh expedition to Gambia and Senegal to investigate sleeping sickness. The members of the expedition are Prof. J. M. Todd, Dr. Wolbach of Harvard University and Mr. E. D. Todd.

Bonesetter Successfully Sued for Negligence

Mr. H. A. Barker, the well-known "bonesetter," and the successor of Hutton and Atkinson, has been successfully sued for negligence. For years he has been carrying on a large business. Extensive advertising has rendered his name a household word; the "oblique" form of advertising, in the shape of interviews illustrated with his portrait, which have appeared in the leading journals, has been largely used. He can boast of as large and fashionable clientèle as any leading surgeon. Indeed, in cases of bone and joint trouble, when dissatisfied with the advice of a great surgeon, many patients have resorted to Mr. Barker. Among athletes and football players he has a great reputation and is said usually to be consulted by them for injuries received in their pursuits. His methods are entirely manipulative, and, no doubt, prove successful in suitable cases. But the ignorant vaunting of a form of treatment, good for certain conditions, for every condition which human credulity will accept, has its dangers.

A man, aged 24, brought an action against Mr. Barker. In 1906 he twisted his [illegible] from a diving-board. From time to time [illegible] from weakness, stiffness and pain in [illegible] he consulted Mr. Barker, who said it was a very bad case, but promised him a cure. Barker first ordered radiant-heat baths. On Nov. 25, 1909, he performed some manipulations under gas. For some time afterward there was slight improvement, and the knee could be moved better, but then the pain returned and he again suggested baths. On December 16 further manipulations were performed under anesthesia. Ten days later an ulcer appeared over the knees. Medical advice was then sought and the knee was found to be tuberculous, and the ulcer due to the extension of the tuberculosis produced by the manipulation. There was a sinus extending to the interior of the joint, and the latter was not only tuberculous, but septic. To save the man's life amputation was necessary. A letter was sent to the defendant by the plaintiff's solicitors claiming damages. To this he made the extraordinary reply that he treated the case on condition that he undertook no responsibility—a statement contradicted by the plaintiff. For the defendant it was stated that he had attended 30,000 cases, was a perfect genius at his profession, and cured 94 per cent. of his patients. He denied that he manipulated the joint, and alleged that the anesthetic was administered only for purposes of examination. But the eminent surgeons who gave evidence for the plaintiff said that to administer an anesthetic for examination of the knee was both unnecessary and improper. In his evidence the defendant said that when he first saw the plaintiff there was extensive tuberculous disease, the hamstrings were contracted, and the tibia was displaced backward on the femur and flexed at an angle of 40 degrees. For the defendant, Mr. Whitehead, the well-known Manchester surgeon, said that he examined the amputated leg, and that the knee must have been in hopeless condition when the man first consulted Mr. Barker. The jury gave verdict of $100 for the plaintiff (a small sum under the condition), —probably because they thought that he was to blame for taking unqualified advice.

A New Departure in Medical Defense

There are two societies for medical defense in Great Britain - the London and Counties Medical Protection Association and the Medical Defense Union. For an annual payment of $2.50 these societies undertake to provide legal defense for a physician who may have an action brought against him for anything done in his professional work. Unfortunately, it is not uncommon for unscrupulous or dissatisfied patients to bring action against physicians for negligence in treating them. Such patients usually have no money and obtain the services of some speculative lawyer who will take the case on a contingent fee. Even when the physician wins, he is liable to incur the heavy legal expenses of defending the case, because the plaintiff has nothing. Until the medical protection societies were started, a physician was thus practically at the mercy of poor and unscrupulous patients. If the physician loses the case, all that the societies have done in the past is to pay the cost of the defense, leaving him liable for any damages obtained against him, as well as the costs of the other side. After a discussion extending over several years, the London and Counties Medical Protection Association has made a new departure and has undertaken to pay the costs of the other side in case the doctor loses, as well as any damages obtained against him not exceeding $10,000 in any one year. For these increased benefits it has been found necessary to increase the annual subscription from $2.50 to $5.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 24, 1911.

Adult Mortality in France

The government commission on mortality, presided over by Professor Lannelongue, who is also a senator, reports that in France, as in most civilized countries, the adult death-rate is continually being lowered. The death-rate from transmissible and avoidable diseases has become continually smaller, both absolutely and relatively to the general death-rate. The tuberculosis death-rate alone, though it does not appear to be increasing, remains stationary and amounts sometimes to a fifth, sometimes a fourth, of the total death-rate. Prophylactic measures are therefore recommended, especially such as check the progress of alcoholism and give aid to the victims of tuberculosis at the first appearance of symptoms.

An International Sanitary Conference at Paris

The French government has just addressed to the countries of the two continents invitations to take part in an international sanitary conference at Paris next May. The conference was decided on in view of the epidemic of cholera last year in certain parts of southern Italy and the pneumonic plague which is raging in Manchuria, the frightful conditions of which recall the worst days of the epidemic in the Indies. The last sanitary conference on cholera, plague and yellow fever was held Dec. 3, 1903. Seven years constitute, as the government says, a long period to allow the matter to be in abeyance, especially in our days, when the progress of science and the diffusion of methods resulting from it are particularly rapid.

In order to facilitate as much as possible the task of the future conference, the French government has had the bases of the discussion prepared by the permanent committee of the international office of public hygiene (The Journal, Nov. 21, 1908, p. 1794). This committee, since 1907, when it was formed in Paris, has been accumulating and publishing the most complete information possible on all questions of sanitary organization. As soon as the conclusions of the permanent committee on the subject-matter of the future conference have been formulated they will be communicated to all the governments invited to the conference for their use in preparing their contributions.

A Proposition for the Reform of Medical Education

Dr. Lannelongue, professor at the Faculté de médecine de Paris and senator, has proposed to the senatorial commission of higher education to make the medical teaching body distinct from the examining body, for the following reasons: Medical instructors are overworked and it is important to relieve the professor from the drudgery of examinations which prevent him from doing justice to his pupils or contributing to the advancement of science. An examination conducted by an outsider would necessarily be more impartial. The pupil would not be tempted to try to secure good marks by studying the personal predilections of his professor. Lannelongue believes that it would be easy to secure a corps of competent examiners in the great university centers by utilizing the services of the numerous *agrégés libres*. The *agrégé* professors, it should be explained, are appointed for a period of only nine years. After the lapse of this time they become *agrégés libres;* that is, they no longer form a part of the teaching corps. Their anomalous situation has often aroused keen criticism. In the rôle of examiner they might find the normal employment of their knowledge.

Limitation of the Number of Physicians

At the last meeting of the Association de la presse médicale française the question of the limitation of the number of physicians was discussed. The same question will soon be taken up by the vigilance committee of the Congrès des praticiens. The members present unanimously empowered their delegate to reject the limitation but to demand a due severity in examinations and sufficient preliminary qualifications in the way of general education, such as classical studies, before permitting candidates to undertake medical studies.

Memorial to Dr. Mesny, a Victim of the Plague

The minister of war has just received the report of our military attaché in China in regard to the circumstances of the death of Dr. Gerald Mesny, physician of the colonial troops, who died of the plague at Harbin, January 13, last, and whose name was incorrectly given in the first despatches as Meunier. Dr. Mesny was a professor in the Chinese medical school at Tien-Tsin when the plague broke out in Manchuria. The authorities asked him to organize measures of defense. He did not hesitate to leave his wife and children to put himself at the head of the Chinese physicians, and went to meet his death at Harbin. When stricken with the plague, he gave evidence of real heroism. In an interview with the French consular agent he declared that, according to all probability, he had still two days to live, and added, smiling, "I do not say au revoir but adieu."

The director [illegible] du service de santé des troupes colo[illegible] facts to the students, declared that he had decided that Dr. Mesny's name should be inscribed on the marble tablets of the school devoted to the officers of the sanitary corps of the colonial troops whose death is the result of devotion to duty.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 24, 1911.

Personal

Professor Uhlenhuth has accepted a call as director of the hygienic institute at Strasburg.——The report has been repeatedly circulated by the newspapers that Waldeyer contemplates resigning during this year. As I am reliably informed, this statement is not correct. Although the distinguished anatomist enjoys an enviable vigor in spite of his 75 years, nevertheless. it would seem that consideration for the rising generation would justify professors of his age in retiring.

The Plague

According to the latest information, the plague in China is receding and it is to be hoped that Europe in general and Germany in particular will be spared from its visitation. For the present the German government has not seen fit to establish any special regulations aside from the ordinary quarantine requirements for ships. The Imperial Health Council, the *Reichsgesundheitsrat*, met to discuss the question Feb. 14, without adopting any definite measures. No plan has been so far developed by the officials for sending German physicians into the plague district.

Improvement of the "Practical Year"

As you are aware, medical students in Germany after they have passed their state examination are required to spend a year for practical education at the university clinics and hospitals, and are only licensed as physicians when they have successfully complied with this requirement which is certified to by the director of the hospital. This arrangement, which has existed for some years, has shown various defects which have constantly become more evident. During the "practical year" they bear the name of "medical practicants" (*Medizinalpraktikant*). The medical councils (*Aerztekammer*) have considered this matter and have reached the conclusion that the institution must be improved. The difficulty consists essentially in an insufficient opportunity for independent activity, an excessive number and unsuitable selection of the hospitals which are qualified for the reception for practicants, the constantly increasing employment of the medical practicants as assistants, and their insufficient instruction in social medicine. The employment of medical practicants in place of assistants has led to complaints by many hospital directors because on that account a lack of actual assistants has arisen. Many young physicians used to feel the need of supplementing their practical education by service as assistant, for one or more years, but now the medical practicants believe that they have sufficiently fulfilled the demands for practical education by their work as assistants during the practical year. In consequence of these difficulties the minister has required the provincial officers to institute an investigation into the training and work of the practicants and make a report on the matter. There is no doubt that the government will endeavor to remove the causes of complaint.

Official Supervision of Homes for Toilers

An important institution for improving the public health will begin its practical activity in Charlottenburg, March 1. In order to remove housing conditions which are insanitary and unsatisfactory in moral and other respects, an inspection service for all small dwellings in which sleeping rooms exist is to be established. This shall also control the permits for laborers, factory hands, apprentices and servants to sleep in the houses of their employers. For the performance of this service two house inspectors are to be appointed by the city and their number will be increased later. These officials with the aid of two assistants from the housing office are to examine all suspected houses, to ascertain if they meet all sanitary and building requirements and if this is not the case to see that the defects are remedied. An information bureau for dwellings is to be associated with the housing office. This is to make possible a substitute for each dwelling that is found insanitary. Together with the inspection of dwellings and the information bureau, a department for statistics in regard to housing is to be established. If this shows a deficiency of sanitary apartments, the care for housing must be extended and provision must be made for the erection of suitable houses which will assure sanitary dwellings to people of small means. With the establishment of this housing office the city of Charlottenburg has instituted a philanthropic enterprise which may serve as a model.

Cancer Statistics in Bavaria

Bavaria has just published the official statistics with reference to cancer collected in 1909. Dr. Teilhaber of Munich gives some results of the investigation in the last number of the *Münchener medizinische Wochenschrift*. According to the figures cancer of the rectum appears to affect in particular those engaged in office work and professors, and secondarily carpenters and tailors. Teilhaber considers that congestion in the pelvic organs is responsible for this predilection. Cancer of the stomach is especially a disease of the poorer population and particularly in Bavaria the peasant class are especially affected by it. From this Dr. Teilhaber draws the conclusion that advancing civilization cannot constitute a cause for the appearance of cancer, for the Bavarian peasants live under the simplest conditions. Cancer of the face is chiefly found in persons who do work in the open air. The conclusions of the author are of uncertain value because of the relatively small number of cases. Still the material thus obtained must be regarded as valuable since from it, in combination with more like material, it is probable that definite conclusions can be reached.

Cancer Statistics in Baden

On the authority of the Baden National Committee for Cancer Research a few years ago a new census of the cancer patients in Baden was undertaken. The material obtained in this way has been elaborated by Privat-Docent Dr. Werner, an assistant of Professor Czerny of Heidelberg, and he has reached some results which, although they deal with comparatively limited material and must, therefore, be accepted with caution, appear to be of interest in several particulars. The distribution of cancer in the individual communities is shown to differ widely. Werner tries to draw conclusions from this fact with reference to the etiology of cancer and he recognizes five factors: heredity, inbreeding, occupation, mode of life (especially nutrition) and race.

Hereditary taint appears to play no great rôle, according to the Baden statistics, but the author emphasizes the fact that the data do not permit any decisive conclusion on account of their meagerness and uncertainty. Inbreeding seems to have no significance in the etiology of cancer, but more careful study of this question is also desirable. The communities in which consanguineous marriages are common, so far as known to the author, are not the ones in which cancer is specially prevalent. As to occupation, a great increase is found in the groups of men servants and day laborers, without reference to age. Similar conditions in this respect were found by another investigator in the statistics of cancer in the kingdom of Saxony. Nevertheless the author holds this finding of no essential importance in determining the etiology of cancer.

He considers that it would be much more reasonable to determine the occupation in families in which cancer is rare or especially prevalent in order to determine whether occupations which produce certain injuries or which bring the worker in contact with certain objects or animals are responsible for the frequency of cancer or whether certain occupations are frequent among cancer patients because they are chiefly followed in regions where cancer is prevalent. The ordinary differences in nutritive conditions as between city and country, agricultural and manufacturing communities, winegrowing districts and other localities show no corresponding differences in the death-rate from cancer.

As for the contagiousness of cancer, no especial frequency is found in cases where a considerable number of persons live in narrow quarters, from which Werner draws the conclusion that direct contact plays but a slight rôle in the causation of cancer. Neither could a special predisposition of any race be established. The same is true for the influence of the place of residence and the housing conditions. The influence of climate on cancer mortality is also negative. Neither could any parallelism be discovered between the distribution of the higher animal and plant species and the occurrence of cancer, so that the assumption of Behla, which was in itself very unlikely, is shown to be fallacious. The supposition that the parasites of cancer are conveyed by stinging insects is not sustained. No parallel could be traced between the distribution of human and animal cancers.

Altogether, Werner concludes from his statistical investigations that there must be assumed to exist some locally prevalent factors, not connected with the age of the person, which occasion or favor the occurrence of cancer and depend on the character of the locality rather than on that of the inhabitants. As to the question whether the frequency of cancer and the danger of acquiring it are increasing, Werner believes that we must admit an actual increase in the disease, although much of the increase shown by statistics must be attributed to better diagnosis, greater supervision of the population by physicians, better opportunities for observation in hospitals, etc.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Feb. 23, 1911.

Unexpected Help for Medical Institutions

The danger threatening the Viennese medical institutions from political parties that wish to control them has been averted, at least for some time, by an unexpected occurrence. The government has come into possession of some 25,000,000 kronen ($5,000,000), as the tax to be paid on the estate left by the late Baron Rothschild on his sudden death quite recently amounts to at least this sum. Out of this tax, the hospital fund must receive 24 per cent., or about 6,000,000 kronen. This will be sufficient to pay the deficit of this fund and also to stop any controversy as to responsibility for hospital relief to the poor, a fruitful source of interference for the above-mentioned political parties. The deceased, a member of one of the wealthiest private banking houses of Europe, has also left liberal legacies to various charitable institutes, so that these at least will have no need to appeal to the public corporations for help; another obstacle for political enterprise.

The Successor of Strümpell: A Recommendation by the Faculty

To-day a meeting of the professors of the medical faculty of Vienna took place, in which a special committee published the names of the professors it recommended as eligible to the appointment to the third medical clinic. Professor von Noorden had studied the problems connected with the affair. When von Strümpell suddenly resigned his post here, and went to Leipsic, in the place of Curschmann, the reasons given for his abrupt termination of an appointment were so serious that a most unpleasant controversy ensued. The medical faculty was justly offended at the manner the professor had been treated by the responsible officials, and for some time the relations between government and university were strained. When in December the possibility of the clinics becoming a domain of political influences was imminent, the faculty refrained from making the necessary recommendation of a competent successor, as it did not want to bind a first-class man to unstable conditions. After certain guarantees had been given by the government concerning the liberty of teaching and the independence of the clinics, the faculty reconsidered its position, and recommended the following candidates, who are named in the order of preference: Prof. Herman Sahli (Berne); Prof. E. von Romberg (at present in Tübingen), and two Austrians, Prof. F. Chvostek (Vienna) and M. Ortner (in Innsbruck). There is a certain tendency in the government circles to exclude candidates from Germany, since there are already several men here from that country, and because of the affair with Strümpell, who also came from that country. It is therefore probable that an Austrian will be appointed, and of the two the better chances are with Ortner.

Miscellany

Symptoms of Exophthalmic Goiter in Pulmonary Tuberculosis.—F. Bialokur noted Basedow symptoms in twenty-seven of 337 patients with pulmonary tuberculosis during 1908, and in twenty-eight in 1909. He tabulates the details of ten typical cases, remarking that the Basedow symptoms must be often overlooked in such cases elsewhere or ascribed to the tuberculous infection. The connection between the Basedow symptoms and the tuberculosis is more than casual, as is shown by the benefit that follows treatment addressed to the exophthalmic syndrome. As this improves, the pulmonary symptoms subside and the patient may be clinically cured. There is probably a vicious circle, the tuberculous toxin exerting an injurious influence on the thyroid, stimulating it to increased secretion, and this secretion may enhance the virulence of the tubercle bacilli, which, in turn, may rouse latent lesions into active processes. In his experience, every patient with exophthalmic goiter was already tuberculous; other physicians seldom examine the lungs with sufficient care with Basedow patients, as their attention is concentrated too exclusively on the exophthalmic goiter. When enlargement of the thyroid is discovered with pulmonary tuberculosis measures to reduce it to normal size should be instituted at once, as thyroid functioning impresses a special character on the course of the tuberculosis. The changes in the lungs are of different kinds, and there may be great destruction, but, as a whole, the lesions are not the most malignant; obstinate diarrhea is the rule; the thyroid is not much enlarged and pronounced exophthalmos is rare; the patients are gloomy and despairing instead of the hopefulness common with tuberculosis. There is generally a tendency to sweats and the temperature is usually subfebrile, the urine normal. It is difficult to find any tubercle bacilli in the sputum, so that the trouble seems to be bronchitis rather than tuberculosis. The overwhelming majority of his patients were women. Pregnancies recurred with remarkably brief intervals, and the sexual instinct was strong and the menses abnormally frequent and profuse. In the ten typical cases described in detail besides the usual strychnin, arsenic or iron treatment, he exposed the thyroid to the Roentgen rays or had it removed. One man of 56 had had the Basedow syndrome and pulmonary tuberculosis for twelve years, and his daughter the same for four. Both were clinically cured by thyroidectomy. Bialokur's article was published in the *Zeitschrift für Tuberkulose*, 1910, xvi, 567.

Social Hygiene in Its Pedagogic Aspects.—A knowledge of the function of reproduction and a proper attitude of mind regarding it must be recognized by educators to be a necessary part of the equipment of every young person for life, says W. S. Hall (*Journal of Preventive Medicine*, February, 1911). Parents and teachers are morally bound to treat all questions of sex in the same simple, straightforward, truthful way that other life problems are treated. Responsibility for instruction of the young in sexual development and sexual right living should rest on parents; but as a rule parents do not discharge this responsibility, and therefore it devolves on the physician and the educator, and the societies formed for the purpose of educating the public on moral and social prophylaxis. The important lesson learned by Hall from years of experience in teaching emphasizes the importance of segregation of the classes to whom he talks. Boy hearers should be separated from men; mothers should be separated from fathers; mothers and daughters should be addressed in separate audiences. The more homogeneous the audience the more definite and positive can the statement of the speaker be. It is easy to see that in an address to a mixed audience of parents and children, sex problems would have to be discussed in a most general and indefinite way. The circumlocutions would have to be so veiled and the allusions so remote that they would be understood only by the most intelligent, and would probably be grossly misunderstood by the less intelligent and experienced. If the audiences were separated into the boys and men, and the women and girls, the situation would be somewhat better, but not wholly corrected. Concerning a division of the audience on age lines, the sexes being mixed, Hall's experience is that a speaker, particularly a physician, can talk much more freely to an audience of mothers than to a mixed audience of mothers and fathers. A frank statement of certain subjects in the daily journal, or in journals of hygiene, is a valuable method of imparting information, as they are read by the individual and here we have segregation carried to its ideal limit. Hall then discusses the matter to be presented to classes of boys or girls of different ages, and refers to the broader range of facts which may obviously be presented to parents. Hall has used three methods of presentation—the biologic, the moral and the heroic. The biologic is the ideal method of presenting the subject of reproduction and sexual life, but is feasible only for the teacher of biology of a high school or college, and is out of the question for social workers, physical directors and public lecturers. The moral method, an appeal, from a moral standpoint, for right living, Hall found to be not effective. The heroic method is based on the human instinct for hero worship. One can get hold of an audience of boys by a discussion of some of the world's great heroes, and will have their undivided, almost painful attention, when he asks the questions: What is the secret of manhood? And: What can a boy do to grow into the highest type of virile manhood, which alone makes possible heroic deeds? Hall says that the lecturer can answer that question in the last five minutes of a forty-five minute talk, and leave every boy in the audience convinced and determined. He is convinced that incomparably the most effective method of presenting these matters to young people and parents, is a frank presentation of the findings of science. Don't try, he says, to point too many morals. If the presentation has been clear and convincing, the listeners will readily draw their own conclusions and formulate their own morals.

A Method for Determining the Absolute Pressure of the Cerebrospinal Fluid.—M. A. Cassidy and C. M. Page (*Proc. Roy. Soc. Med.*, January, 1911), have devised a simple apparatus for determining the absolute pressure of the cerebrospinal fluid with the escape of only an inappreciable and constant volume of the fluid. It consists of a hollow needle of 1.5 mm. bore, provided with a close-fitting stylet, the pointed ends of both of which are cut at an angle of about 35 degrees. Two cm. from the blunt end of the needle there is a simple cock. Into the lumen of the needle beyond this cock can be fitted a tapped nozzle, which is connected to an open glass tube 18 cm. in length and 15 mm. in diameter by means of rubber pressure tubing 1 meter in length. A wooden clip to which is attached a measuring tape can be fixed to any point of this glass tube. In order to take a reading the following technic is observed: After sterilizing the apparatus the patient is placed on the side with the lumbar spine well flexed, with the cerebrospinal axis horizontal. Normal saline solution at 120 F. is poured into the glass tube and pressure tubing, and the tap on the nozzle is closed when the glass tube is half full of the solution; the wooden clip is then fixed on the glass tube to mark the level of the saline solution. The theca is punctured through one of the lumbar spaces, the needle being introduced exactly in the middle line and perpendicular to the coronal plane; the stylet is withdrawn and the cock is closed as soon as the cerebrospinal fluid appears at the orifice of the needle; not more than a drop or two should be lost. The pressure tubing is then connected to the needle by means of its nozzle, and the glass tube is held so that the level of the fluid in it is at a height above the needle roughly equal to the expected reading. Both the taps, that is, that on the needle and that on the nozzle, are now opened so that the saline solution may be balanced against the cerebrospinal pressure. If the latter is greater than the height of the saline solution, fluid will rise above the level of the wooden clip, and vice versa. The glass tube is quickly raised or lowered, as may be necessary to keep the contained solution at its original level; the vertical height of the clip above the needle will then give the intrathecal pressure in terms of centimeters of normal saline solution. The density of normal saline solution at 120 F. is almost identical with that of water. When proper communication has been established between the saline solution in the tube and the cerebrospinal fluid, a regular rise and fall in the pressure to the extent of about 1 cm. will be observed, synchronous with the respiratory movements; unless this respiratory excursion is present no reading is of value. The method has been used in over sixty cases. The highest pressure observed by Cassidy and Page was 100 cm. saline in a case of cerebral abscess, and the lowest 7 cm. in a case of diabetes insipidus.

Fallacies Regarding the Transmission of Infectious Diseases.—With the establishment of the germ theory and the discovery of certain organisms always present in certain diseases we began to reconstruct our ideas regarding the manner with which these diseases are spread and new ways of prevention and cure are sought. B. R. Rickards (*Quar. Bull., Ohio State Board of Health*, October-December, 1910) says that old ideas in regard to the transmission of infectious diseases are hard to eradicate. Diphtheria, prior to the discovery of the Klebs-Loeffler bacillus, was supposed to have some connection with sewer gas or broken drains, and wherever a case of diphtheria was found a faulty trap or other imperfection was hunted for and usually found. We know now that the diphtheria bacillus is not found in the air or soil of drains. The only significance of the sewer-gas theory is that continually breathing such gas lowers the vitality and renders the person more liable to infection. It is now generally believed that diphtheria is almost always conveyed from mouth to mouth by means of kissing, public drinking cups, spoons, gum, etc. It seems probable that diphtheria is not conveyed by clothing, wall paper or other inanimate objects, except perhaps articles like handkerchiefs. It may be conveyed from persons who are perfectly well, who harbor diphtheria germs in their throats, but who possess sufficient resistance to prevent the development of the disease in themselves. Typhoid fever was formerly supposed to originate from filth such as decaying garbage, etc. This conception contained a grain of truth, but not the whole truth. Filth does serve as a breeding-place for flies, which are active spreaders of disease, including typhoid fever. The disease cannot originate except from a previous case and rural wells are only sources of typhoid when they are contaminated by human excrement from a patient with typhoid fever. It has been believed that street dust infected by spitting, infected rooms, milk from tuberculous cows and the like, are factors in spreading tuberculosis, and this is perhaps true to a certain extent. Experiments conducted by Rickards and others tend to show that heavily-infected sputum is rendered harmless in an apparently short time by the effect of the sun, and that after drying sufficiently so that it can be blown about as dust, the germs will be destroyed. Infected rooms undoubtedly play a larger part, as direct sunlight cannot reach all parts of the rooms and reflected light has a slower destructive action on the germs. The milk from cows is no doubt responsible for some tuberculous infection, but to a lesser degree perhaps than are human sources. The milk becomes infected most frequently from the excrement and it is probable that in babies the infection is most frequently communicated by kissing or by feeding utensils. What has been said regarding these common diseases applies also to such infections as measles, scarlet fever, small-pox, etc. Rickards urges that in the work of combating infectious diseases we should abandon exploded theories and get down to the actual facts and modify our quarantine and other measures accordingly.

Unusual Complications of Chronic Nephritis.—A. Pollak reports some interesting cases in the *Wiener klinische Rundschau*, 1910, xxiv, showing that pleurisy, pericarditis, peritonitis and even meningitis may develop as a complication of chronic nephritis. Also that in the stage before actual uremia, symmetrical fibrillary twitching may be observed or a syndrome suggesting multiple sclerosis and hysteria. In one case acute peritonitis developed in the course of a mild chronic nephritis in a middle-aged man. In another case acute meningitis developed in a woman of 47 with signs of nephritis. He has encountered three cases of the complicating pericarditis. In all the above cases the serous membrane became suddenly affected in the midst of apparent health except for the mild nephritis. All the patients died except one man who passed through two attacks of the pericarditis and succumbed a few months later to a heart lesion. In another case a woman of 56 with chronic nephritis began to notice fibrillary twitching in the extremities. In a few days a typical attack of uremia followed in which the patient succumbed. Another patient was a young woman who complained of headache frequently recurring during the last four months. Physical examination was negative but he urged the patient and her mother to send him some urine for examination. Under tonics the young woman's symptoms subsided and she neglected to send the urine. Nearly a year afterward he was called in again and found the young woman with severe symptoms suggesting multiple sclerosis. Two days after this rapidly fatal uremia cleared up the diagnosis. It is rarely, he says, that chronic nephritis runs its course in this way without attracting attention to the kidneys. If his warnings in regard to urine examination had been heeded, the nephritis might have been detected and treated in time. In another case a little girl grew pale and the medical inspector of the school found dulness over the right apex and râles, and gave directions for general treatment of tuberculosis. He sent the child to a lung specialist a week later who confirmed his diagnosis. and referred the child to Pollak for a certificate entitling her to a course in a sanatorium for lung affections. Pollak examined the urine and found 2 per cent. albumin with tube-casts and red corpuscles; the child died in six weeks. He comments that this case speaks volumes for the necessity of medical school inspectors confining themselves to mere detection of illness and warning the parents that the child is sick and should be taken to a physician. The physician can then make an examination much more thoroughly than is possible in the school, and institute appropriate measures in time.

Sanitary Food Production.—Declaring that food, though chemically pure, may be sanitarily unfit to eat, H. E. Barnard, State Food and Drug Commissioner of Indiana, in an address delivered before the Association of State and National Dairy Departments, at New Orleans in December, 1910, stated his belief that this fact will be the basis of future food legislation, and that the work of the food departments, commissioners and inspectors will be less and less given to controversial discussions of labels and manufacturers, and instead will be devoted to the promulgation of the old maxim in a new version. "cleanliness is godliness," among food producers and distributors. To him the astonishing thing is that for so many years we have trailed after the milk wagon in search of watered samples, and never entered the dairy to hunt the reason why the infant mortality of our cities is ten times as high among bottle-fed as among breast-fed infants; that we have frantically fought the rainbow-hued demon whose dye-pot made strawberry pop, jellies and confectioneries esthetically attractive, forgetting in the fray that polluted water in the pop bottle is a thousand times more dangerous to the consumer than anilin red, and that rotten fruit is a worse adulterant of jam than an atom of Biebricht scarlet; that we have fought relentlessly the substitution of oleomargarin for butter on the boarding-house table and never made a move to prevent the sale for food of rancid, filthy country butter, infinitely worse for the consumer and a more vigorous competitor of the product of the trained buttermaker than all the oleomargarin factories in the country. The fact faces us that the grocer who is honest but dirty strikes a more direct blow at the health of the community than his competitor, who does not hesitate to sell distilled water for cider vinegar and cotton-seed oil for olive oil, but who in the commission of his crimes sees to it that his hands are sanitarily clean, his goods free from dust, and his clerks undiseased; and that the butcher who sells tuberculous meat is infinitely more dangerous than he who mixes stearin in his lard or puts cracker crumbs in his sausage. The one class robs us of our heritage of health; the other steals but the lining of our pocket-books.

Report of Loomis Sanatorium.—The 1910 report of Loomis Sanatorium, Liberty, N. Y., for the treatment of tuberculosis, shows that 416 patients were admitted during the year and 411 discharged. The physician in chief, in summing up the work of the year, emphasizes the fact, to which attention was called in the report for 1909, of the undoubted relation between the length of stay in the sanatorium and the result of treatment, at least so far as the class of "apparent cures" is concerned. Thus, in 1907, with an average stay in the institution of 31.44 weeks there were 18.80 per cent. of apparent cures; in 1908, with an average stay of 43.09 weeks, the apparent cures were 21.52 per cent.; in 1909, with an average stay of thirty weeks, the apparent cures were 15.61 per cent.; while in 1910 the average stay was 26.62 weeks and the apparent cures amounted to but 12.30 per cent. This relation is also borne out in the class of incipient cases. In 1908, for instance, 72 per cent. of incipient cases were discharged as apparently cured, after an average residence of 25.83 weeks; in 1909, but 43.75 per cent. after a stay of 19.62 weeks, and about 50 per cent. in 1910 after an average residence of 19.66 weeks. It is found that this applies not only to the immediate results, but has a bearing on the ultimate results after the patient leaves the sanatorium. Forty-nine patients received tuberculin treatment in addition to the other measures, thirty-three of these for a period exceeding ninety days. One died. All the rest were improved, arrested or apparently cured. Following out the plan conceived and mentioned in the report for 1909, a more scientific method of feeding the patients has been followed during the past year. Careful weighing of the food, and computation of the chemical constituents, and more extended experience have permitted the division of the patients into three classes with regard to their diet, with the result of securing a diet more nearly adapted to the individual requirements, with consequent greater benefit to the patients. The report still further confirms the conclusion that the sanatorium treatment of tuberculosis presents great advantages over any other plan.

Pregnancy After Nephrectomy.—At the recent annual meeting of the French Société d'obstétrique, de gynécologie et de pédiatrie, several members reported cases of apparently normal pregnancy in women who had had one kidney removed on account of tuberculosis. Pinard, Pousson and Hartmann reported experiences in this line, the total on record, according to them, being now 113 cases in which an operation on the kidney for tuberculosis or other cause was accompanied or followed by a pregnancy. In the thirty-five cases in which the operation was done on the pregnant woman, the pregnancy did not seem to be affected in any way and it did not render the prognosis of the kidney operation any more serious. In seventy-four other cases the women became pregnant after the nephrectomy. With the exception of one woman who died from eclampsia and another from renal insufficiency during the puerperium, the single kidney answered every purpose, although it was itself diseased in a few cases and delivery had been difficult in a few others on account of contracted pelvis or other cause. In three cases the pregnancy followed nephrotomy; it terminated in abortion in one case but the other patients had two and three normal pregnancies. In another case a normal pregnancy followed bilateral decapsulation of the kidney. The conclusions were that even when the kidney has been removed for tuberculosis, if the urine is free from bacilli, marriage may be permitted to girls. Pousson stated that fifty-nine out of sixty-five women on whose kidneys he had operated have passed through a normal pregnancy since and some three pregnancies. In seven others there was abortion. In every instance the puerperium was free from complications, and most of the women could nurse their children, one becoming a professional wet-nurse. The children were all healthy at birth and to date, except that one has died of whooping-cough and another at the age of 15 months of tuberculous meningitis.

Conservative Treatment of Total Rupture of Lower Segment of Uterus.—A. Boero, Buenos Aires, in a communication to the *Semana Medica*, 1910, xvii, 1657, reviews the indications in such cases and reports five cases from his own experience in which notwithstanding this serious complication of childbirth all the patients but one recovered. The aim is to refrain from anything that might increase the shock from which the woman is suffering. The uterine artery is rarely involved in the laceration and what hemorrhage there is comes from the site of the placenta. When there is no shock he removes the uterus at once, but in the severer cases he tries to tide the patient past the shock period and give her time to recuperate. A month or two later it is a comparatively simple matter to remove the whole or part of the uterus. The fetus is nearly always dead after such a rupture, he says, and it should be extracted with a mutilating operation if necessary to get it and the placenta out of the way as rapidly as possible, without version. There should be no rinsing out of the uterus or vagina. The obstetrician's hand is introduced and the lower lips of the upper segment are drawn together and held between the thumb and index finger and thus worked down inside the lower, torn-off segment; the fingers are then replaced by forceps and the upper segment is securely fitted into the lower segment, thus shutting off all communication between the vagina and uterus and the peritoneal cavity, except for a small tunnel made in the broad ligament for drainage, through which a wick of gauze is pushed. The lower segment and vagina are then packed with gauze. The obstetrician must realize that his hand is the vulnerable point in the procedure and that on his sterilization of his hands depends the outcome of the case. In the one fatal case in his experience several hours had elapsed after the rupture before the patient was brought to the clinic and various forceps applications had been made.

Loss of Appêtite in Tuberculosis.—B. Schleisick contributes an article on this subject to the *Zeitschrift für Tuberkulose* in which he states that the loss of appetite with a tuberculous pulmonary process may be the result of the action of toxins or of a latent tuberculous process in the cecum. The latter is more common than generally recognized; it may be discovered by systematic palpation, eliciting mild pain in the region. The diagnosis is confirmed by an injection of tuberculin which induces a typical focal reaction at this point. He adds that the tuberculous process in the cecum once diagnosed, operative treatment should follow at once, as tuberculosis of the intestines seldom heals spontaneously and in the appendix practically never. The operation is simple and easy at this early stage. Persistent lack of appetite may be the only sign of the intestinal process for a long time. Even the toxic anorexia may be favorably influenced by tuberculin treatment. The abnormal secretory conditions in the stomach return to normal under the influence of the tuberculin.

Soil Pollution by Hookworm.—Stiles and Gardner (Bulletin U. S. P. H. and M.-H. Service) have conducted experiments for the purpose of determining the length of time hookworm eggs may retain their vitality in the soil and under various conditions of drying and temperature. The soil under and around the privy is not entirely free from infection with hookworm even five months after the privy was last used, although the infection is considerably reduced at the end of four months. When the fecal material has undergone decomposition under water most of the hookworm eggs are dead in about ten weeks, though some still survive but they would probably all be dead in three months. It would not be safe to use such material as a fertilizer in less than three months. It has been shown that chlorid of lime fails to kill hookworm eggs in twenty-two to forty hours. The eggs of the typhoid fly and other species of fly are still capable of development after that length of time, and the flies are capable of reaching the open air even when material in which they breed has been buried under from 17 to 72 inches of sand.

American Achievements in the Tropics.—In declining an invitation to attend a banquet President Taft made this fine tribute: "We have real ground for national pride in the fact that England, France, Germany—Germany not so much so—and Holland have been engaged in the colonial business in the tropics for 100 years, some of them 200 years, and yet it remained for American physicians, and especially the physicians in the army to discover more things in the ten years since the Spanish-American War than were discovered in the whole two centuries before that time; and if nothing else justified the Spanish-American War, the discoveries of the American physicians since that time—what I may term the sequence of the war—were ample to justify the expenses of that war to ten times over. It is a real record of achievement of a national character that everyone who understands it must dwell on with sincere pride."

Marriages

Henry Francis Ballard, M.D., to Miss Louise Myers, both of Chenoa, Ill., February 22.

John Stephan Nagel, M.D., Chicago, to Miss Evelyn Morrison Robinson of New York City, March 7.

Edward Montgomery Wellbery, M.D., to Miss Rosemary Carney, both of Brooklyn, N. Y., February 28.

Bleeker J. Knapp, M.D., Evansville, Ind., to Miss Eleanor Dee Gordon of Madisonville, Ky., recently.

Martin Washington Yencer, M.D., Richmond, Ind., to Miss Jeanette Hill, at Richmond, February 23.

Preston Worley, M.D., Clovis, N. Mex., to Miss Ethel Audrey Kennedy of Youngstown, O., February 28.

Nathaniel H. Manring, M.D., Elwood, Ind., to Mrs. A. C. Gordon of Indianapolis, at Louisville, Oct. 31, 1910.

George Graham Hunter, M.D., Los Angeles, Cal., to Miss Grace Geraldine Hildreth, at Los Angeles, Dec. 20, 1910.

George Alfred Lawrence, M.D., to Mrs. Julia W. M. Curtis, both of New York City, at Wilmington, Del., February 14.

Frank Lossing Carpenter, M.D., Berkeley, Cal., to Mrs. Mary Saylor Bingham of Glens Falls, N. Y., at Oakland, Cal., February 1.

Deaths

Henry Pickering Bowditch, physiologist of world-wide fame, formerly dean of Harvard Medical School, died at his home in Jamaica Plain, Boston, March 13, aged 70. He was graduated from Harvard University with the degree of A.B. in 1861, and served during the Civil War in the Massachusetts Volunteer Cavalry, attaining to the rank of major. At the close of the war he entered Harvard Medical School and was graduated from that institution in 1868. He then pursued studies in his chosen branch of physiology for three years in Germany, and on his return to the United States in 1871 was made assistant professor of physiology in Harvard Medical School. From 1876 to 1903, he was professor of physiology in that institution, dean of the school from 1883 to 1893, and George Higginson professor of physiology from 1903 to 1906. He was given the honorary degree of D.S.C. by the University of Cambridge in 1898, and the degree of LL.D. by Edinburgh University in 1898, Toronto University in 1903, and the University of Pennsylvania in 1904. He was a member of the American Medical Association, American Academy of Arts and Sciences, National Academy of Sciences, American Philosophical Society, American Society of Naturalists, and American Physiological Society. In 1896 and 1900 he served as vice-president of the American Association for the Advancement of Science, and was also a corresponding member of the British Association for the Advancement of Science. Dr. Bowditch was a prolific writer on his specialty of physiology. Aside from his eminence as a scientist, Dr. Bowditch endeared himself to all who knew him by his character as a man; especially to his students was he the ideal of the scholar, the man, and the courteous, polished gentleman, and his influence in arousing in them a desire for thorough work and for living up to the highest ideals of the profession was great and permanent.

Daniel Augustus Currie, M.D. Buffalo (N. Y.) Medical College, 1864; a member of the Medical Society of the State of New Jersey; and of the Association of Military Surgeons of the United States; past president of the Alumni Association and for five years a trustee of the university; one of the organizers of the Englewood, N. J., Hospital; a member of the operating staff of the Hackensack Hospital; major-surgeon of the Fifth Infantry, N. G. N. J., and lieutenant colonel of the Second N. J. Infantry, U. S. V., during the Spanish-American War; local surgeon of the Erie Railroad; first mayor of Englewood, and afterward reelected to that office; died at his home, February 28, from cancer, aged 70.

Eugene Kingman, M.D. College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association, and Boston Society of Psychiatry and Neurology, and president of the Rhode Island Medical Society in 1910; neurologist to the Rhode Island Hospital; organizer and first chief of the staff of the Providence Lying-In Hospital; a charter member and first president of the Rhode Island Hospital Club; died at his home, February 26, from uremia, aged 67.

Albert Joseph Erdman, M.D. Jefferson Medical College, 1873; a member of the Medical Society of the State of Pennsylvania, and formerly president and treasurer of the Lehigh County Medical Society; for seven years a member of the local pension examining board; for several years school director of Allentown, and for thirteen years physician to the Lehigh County Almshouse; died at his home in Allentown, March 1, from cerebral hemorrhage, aged 58.

Bartlett Norton Torrey, M.D. Washington University, St. Louis, 1874; a member of the American Medical Association; formerly local surgeon of the Burlington System, and president of the Cottage Hospital, Creston, Ia.; superintendent of the Omaha General Hospital in 1905 and 1906; for the last two years a resident of Detroit; died in Harper Hospital, March 2, from nephritis following prostatectomy, aged 66.

Skiles McKechan Woodburn, M.D. University of Pennsylvania, Philadelphia, 1872; a member of the American Medical Association; and for many years inspector of the State Board of Health for Bradford County; for nine years local pension examiner; a member of the board of health, town council and board of education of Towanda, Pa.; died at his home, February 22, from pneumonia, aged 60.

John Williams Coe, M.D. Johns Hopkins Medical School, Baltimore, 1898; a member of the American Medical Association; and New York Academy of Medicine; instructor in clinical pathology in Cornell University Medical College; and physician to the skin department of the Presbyterian Hospital, New York City; died at that institution, March 6, from pneumonia, aged 38.

Daniel Maynard Burgess, M.D. New York University, New York City, 1852; a member of the American Medical Association; surgeon of the steamship *Atlantic* in 1856; health inspector for the United States government in Cuba from 1874 to 1898; an authority on yellow fever; died at his home in New York City, March 1, from pneumonia, aged 82.

Oswald Warner, M.D. College of Physicians and Surgeons, New York City, 1854; a veteran of the Civil War; formerly assistant on the medical staff of the New Jersey State Hospital, Morris Plains; for several terms president of the District Medical Society of Passaic, N. J.; died in Newark, February 20, aged 77.

Theodore Bacmeister, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1856; a pioneer practitioner of central Illinois; professor of materia medica and therapeutics in Hahnemann Medical College, Chicago, in 1869 and 1870; died suddenly at his home in Toulon, Ill., March 8, from angina pectoris, aged 81.

William Wheeler Hewlett, M.D. Bellevue Hospital Medical College, 1869; a member of the Medical Society of the State of New York; formerly president of the Suffolk County Medical Society; twice president of Babylon village and twice health officer; died at his home, March 5, from heart disease, aged 63.

George Duffield Stewart, M.D. Detroit (Mich.) Medical College, 1878; sheriff of Wayne County, Mich., in 1898 and 1899; formerly city physician of Detroit and physician of Wayne County; afterward a resident of Mt. Clemens; died at his home in that place, March 7, from nephritis, aged 55.

Girard Bryce Edwards, M.D. Ohio Medical University, Columbus, 1905; a veteran of the Spanish-American War; of Cheraw, Colo.; formerly of Clearfield, Pa.; and jail physician of Clearfield County; died at his home, March 1, from tetanus following an injury to the left ankle, aged 35.

Lowrie Payne Hapgood, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; a member of the American Medical Association; formerly president of the school board of Bedford; died at his home in South Side, Pittsburg, March 6, from pneumonia, aged 34.

John T. Wilkins, M.D. Jefferson Medical College, 1843; University of Maryland, Baltimore, 1851; a member of the Northampton County (Va.) Medical Society; died at his home in Vaucluse near Eastville, Va., Nov. 16, 1910, from senile debility, aged 90.

Leonidas E. Best (license, Ontario, 1865); formerly of Grand Rapids, Mich.; for two terms coroner, and a member of the board of supervisors of Kent County; died at the home of his daughter in Salt Lake City, February 28, from cerebral hemorrhage, aged 66.

John S. Boyd, M.D. University of Pennsylvania, Philadelphia, 1870; superintendent of admission of Girard College, Philadelphia; and connected with the Girard estate for twenty-seven years; died at his home, March 6, from pneumonia, aged 62.

William T. Carpenter, M.D. University of Nashville, Tenn., 1864; of Iron Mountain; a veteran of the Civil War, and one of the founders of the Ishpeming Hospital; a member of the Michigan State Medical Society; died in Maitland, Fla., March 6, aged 73.

William A. Whitlock, M.D. University of Tennessee, Nashville, 1885; of Ukiah, Cal.; died in St. Winifred's Hospital, San Francisco, February 26, from brain disease following an infection received during an operation four months before, aged 58.

George Delos Coe, M.D. Eclectic Medical Institute, Cincinnati, 1872; a veteran of the Civil War; for several years city physician of Carthage, Mo.; died at his home in San Francisco, February 5, from acute intestinal disease, aged 73.

Alfred Lewis Wolfe, M.D. Washington University, Baltimore, 1877; a member of the American Medical Association; for several years a practitioner of Elkton, Va.; died at his home in Roanoke, Va., March 2, from tuberculosis, aged 57.

Thomas R. Mask, M.D. Leonard School of Medicine, Raleigh, N. C., 1889; an esteemed colored practitioner of Wilmington, N. C.; and a member of the New Hanover County Medical Society; died at his home, February 19, aged 48.

James Mooney, M.D. Detroit (Mich.) Medical College, 1877; a member of the American Medical Association, and Panhandle Medical Association; died at his home in Wellington, Tex., Dec. 4, 1910, from pneumonia, aged 58.

James B. Judson, M.D. Homeopathic Hospital College, Cleveland, O., 1876; a veteran of the Civil War, and a practitioner since 1863; died at his home in Springport, Mich., January 21, from cerebral hemorrhage, aged 66.

J. A. Parsons, M.D. Atlanta (Ga.) Medical College, 1884; of Bowersville; a member of the Medical Association of Georgia; died in the Grady Hospital, Atlanta, February 25, from cerebral hemorrhage, aged 49.

Elijah B. Woolston, M.D. University of Pennsylvania, Philadelphia, 1854; a member of the Medical Society of New Jersey; died at his home in Marlton, Dec. 17, 1910, from cerebral hemorrhage, aged 77.

Colin Bancroft McKenzie, M.D. University of Michigan, Ann Arbor, 1891; acting assistant surgeon U. S. P. H. and M.-H. Service; died at his home in Harbor Beach, Mich., March 6, from heart disease, aged 50.

M. Duke Kimbrough, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the Medical Society of the State of North Carolina; died at his home in Mocksville, Nov. 26, 1910, aged 72.

Robert W. Joyner (license, North Carolina); a member of the American Medical Association and Seaboard Medical Association; died at his home in Woodland, January 11, from myocarditis, aged 70.

Frederick Howard Files, M.D. Medical School of Maine, Brunswick, 1888; a member of the South Dakota State Medical Association; died at his home in Madison, March 1, from pneumonia, aged 48.

King Holt, M.D. Tulane University, New Orleans, 1871; of Baton Rouge, La.; for several years a sanitary officer of the United States government in South America; died at his home, February 18.

Lewis Nathaniel Howard, M.D. Homeopathic Medical College of Missouri, St. Louis, 1870; a Confederate veteran; died at his home in Indianapolis, February 23, from interstitial nephritis, aged 73.

Charles Austin Jennings, M.D. Starling Medical College, Columbus, O., 1889; formerly of Delevan, Ill.; died at the home of his aunt near Olathe, Kan., February 21, from tuberculosis, aged 43.

John P. Johnston, M.D. Jefferson Medical College, 1879; a member of the West Virginia State Medical Association; died at his home in Wellsburg, March 6, from ptomain poisoning, aged 55.

Edmund Roy Gustin, M.D. University of Buffalo, N. Y., 1893; of Harrison Valley, Pa.; coroner of Potter County in 1895; died in the Williamsport General Hospital, February 9, aged 30.

Augustine Gandier, M.D. Queen's University, Kingston, Ont., 1890, and gold medalist of his year; M.R.C.S., L.R.C.P., L.S.A., London; died at his home in Sherbrooke, Que., Dec. 15, 1910, aged 45.

Charles Lisle Bond, M.D. University of Buffalo, N. Y., 1903; a member of the Medical Society of the State of New York; died at his home in Valois, February 25, from pneumonia, aged 38.

Frank J. Maschek, M.D. Rush Medical College, 1882; formerly a member of the American Medical Association; died at his home in Chicago, February 10, from cancer of the tongue, aged 50.

Lonnie Ray Wood, M.D. Vanderbilt University, Nashville, Tenn., 1910, and recipient of the Founder's Medal; died at his home in Attalla, Ala., February 9, from pneumonia, aged 23.

Oscar W. Roberts (license, Arkansas, 1907); an eclectic practitioner of Reyno; is said to have been killed by a blow from the mace of the city marshal of Reyno, Dec. 5, 1910, aged 26.

William B. Hart, M.D. University of Buffalo, N. Y., about 1846; for nearly sixty years a practitioner of McHenry County, Ill.; died at his home in Greenwood, February 19, aged 99.

Washington Jackson Caldwell (license, Tuscaloosa County, Ala.); a Confederate veteran and one of the oldest practitioners of Tuscaloosa; died at his home, February 28, aged 81.

Addison Wilson Bare, M.D. University of Louisville, Ky., 1860; a member of the Indiana State Medical Association; died at his home in Bryantsville, February 27, aged 84.

Merrill James Galloway, M.D. Philadelphia University of Medicine and Surgery, 1874; died at his home in Philadelphia, February 28, from heart disease, aged 72.

Isaac M. McBride, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1877; died at his home in Rugby, N. Dak., March 1, from tuberculosis of the lungs, aged 56.

Maria Stewart Loughborogh Edwards, M.D. American Medical Missionary College, Chicago, 1899; formerly of Moline, Ill.; died in St. Helena, Cal., February 28.

Thomas A. Andrews, M.D. Jefferson Medical College, 1868; a Confederate veteran; died at his home in Seagoville, Tex., January 26, from pneumonia, aged 64.

George E. Williams, M.D. Medical College of Virginia, Richmond, 1902; formerly of Richmond; died at his home in Pearisburg, Va., February 21, aged 35.

Francis Marion Moore, M.D. Rush Medical College, 1876; Kansas City (Mo.) Medical College, 1879; died at his home near Perry, Mo., February 17, aged 55.

Edmon C. Waltersdorf, M.D. Hahnemann Medical College, Chicago, 1881; died at his home in Detroit, March 5, from accidental gas asphyxiation, aged 58.

L. B. Chilton, M.D. Shelby Medical College, Nashville, Tenn., about 1860; died at the home of his niece in Guthrie, Ky., January 5, from nephritis, aged 72.

Valentine Fritts, M.D. Kansas City (Mo.) Hospital College of Medicine, 1885; died at his home in Luray, Kan., February 5, from pneumonia, aged 61.

William C. Moughon, M.D. University of Louisville, Ky., 1876; died at his home in Wills Point, Tex., March 2, from laryngeal tuberculosis, aged 56.

John Biggs Standlee, M.D. American Medical College, Eclectic, St. Louis, 1904; died at his home in Peoria, Ill., February 17, from tuberculosis, aged 33.

Herschel Josephus Logan, M.D. University of the South, Sewanee, Tenn., 1897; died at his home near Plains, Ga., February 26, aged about 40.

George Davis (license, Iowa, years of practice, 1886); of Canton, Ia.; died at the home of his brother in South Garry Owen, February 9, aged 58.

Thomas Blackwood, M.D. Jefferson Medical College, 1874; died suddenly at his home in Flushing, O., February 20, from heart disease, aged 62.

John B. Hollingsworth, M.D. Starling Medical College, Columbus, O., 1865; died at his home in Quaker City, O., January 16, aged 78.

Eugene Orville Bardwell, M.D. University of Buffalo, N. Y., 1879; died at his home in Emporium, Pa., Jan. 4, 1910, from pneumonia, aged 55.

Francis J. J. McHugh, M.D. Detroit (Mich.) College of Medicine, 1889; died at his home in Detroit, February 25, from pneumonia, aged 50.

John E. Sommers, M.D. Eclectic Medical Institute, Cincinnati, 1892; died at his home in North Baltimore, O., February 26, aged 56.

Thomas Crosgrove, M.D. Rush Medical College, 1869; died at his home in Hubbard, Ia., February 18, from cancer of the face, aged 69.

N. L. Holt (license, Texas, 1907); died at his home in Chillicothe, February 22, four days after an operation for appendicitis, aged 36.

Lewis Addison Fairchild, M.D. Rush Medical College, 1890; died at his home in Peru, Neb., February 22, from diabetes, aged 62.

Charles J. Sherer (license, Oklahoma, Act of 1908); died suddenly at his home in Kent, Oct. 21, 1910, from heart disease.

C. Almon Paul, M.D. Hahnemann Medical College, Chicago, 1889; died at his home in Solon, Me., February 22, aged 57.

Thomas E. Tribble, M.D. University of Tennessee, Nashville, 1833; died at his home in Bloomfield, Mo., February 23.

"The Propaganda for Reform"

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

COMPRESSED OXYGEN

Report of the Council on Pharmacy and Chemistry

The referee of the Council appointed to report on the composition of compressed oxygen as found on the market and to make recommendations as to its inclusion with New and Nonofficial Remedies submitted the following report:

The Section on Stomatology at the 1909 session of the American Medical Association having recommended the inclusion of compressed oxygen with the U. S. Pharmacopeia, the Council voted to describe this product with New and Nonofficial Remedies until such Pharmacopeial recognition had been secured. This action having been decided on, it became necessary to provide standards of purity for this substance. Correspondence both with firms who make the product as well as with those who use it gave the referee of the Council little information as to what degree of purity should be required for this substance, and it therefore became necessary to examine the product as it was found on the market.

Professor Warren R. Smith of Lewis Institute, Chicago, kindly offered to cooperate with the Council and to make an examination of this product. The referee herewith transmits the very thorough report regarding the composition of commercial compressed oxygen which has been made by Professor Smith in collaboration with Edwin D. Leman. The referee recommends that the Council express its appreciation for the work and that it request publication of the report in The Journal. The referee further recommends that the description of compressed oxygen submitted herewith be adopted for inclusion with New and Nonofficial Remedies.

This report was adopted by the Council and in accordance therewith the examination of Smith and Leman is published below and the description of compressed oxygen appears with New and Nonofficial Remedies on another page of this issue of The Journal.

W. A. Puckner, Secretary.

The Purity of Compressed Oxygen

Prof. Warren R. Smith and Edwin D. Leman

We have recently examined three specimens of commercial oxygen, purchased in the open market, with the results shown in the accompanying table.

Maker	Chicago Oxygen Gas Co., Chicago	Ohio Chemical and Mfg. Co., Cleveland	S. S. White Dental Mfg. Co., Philadelphia
Per cent. oxygen	94.78 94.80* 94.78 94.80†	97.84 97.85* 97.84 97.86†	96.84 96.76* 96.84 96.93†
Per cent. nitrogen[1]	5.22 5.20* 5.22 5.20†	2.15 2.16* 2.14 2.16†	3.09 3.17* 3.09 3.00†
Potassium iodid test	Negative.	Negative.	Negative.
Per cent. carbon dioxid.	Negative.	Negative.	0.06 0.07*
Carbon monoxid methane, etc.	Negative.	Negative.	Negative.

[1] That is, not absorbed by potassium pyrogallate.
* Smith.
† Leman.

The gas from the Chicago Oxygen Co. was claimed to be under a pressure of 16 atmospheres. The amount of nitrogen found in this sample is just about that which would be present if pure oxygen were forced into a container filled with air under one atmosphere pressure until a pressure of 16 atmospheres was reached. The other samples were stated to be under a pressure of 1,600 lbs., so that the amounts of nitrogen found cannot be accounted for by a similar hypothesis.

The potassium-iodid test mentioned in the table consisted in passing from 2 to 4 liters of the gas through a solution containing starch and potassium iodid. A negative result in this test shows that the gas is free from chlorin, ozone, oxids of nitrogen, etc. The negative results for carbon dioxid mean that not more than a slight opalescence was obtained by passing 2 to 4 liters of the gas through a solution of barium hydroxid. The carbon monoxid test was made by passing the gas through alkali to remove all carbon dioxid, then over heated platinum, and finally through barium hydroxid solution. A negative result here shows freedom from carbon monoxid, methane and other hydrocarbons.

Shot-Gun Prescriptions and Shot-Gun Specialties Combined

A physician in a small town in Nebraska writes: "In looking over a prescription file not long ago I found a prescription which I copied and am sending to you. It is a good example of shot-gun prescribing. I do not give the name of the prescriber, and you will please not mention from whence this comes. The doctor who wrote this has had about ten years' experience."

Here is the prescription given exactly as transmitted by our correspondent:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	ʒi
Bromoform Bronchial Anodyne	℥ii
Syrup Cocillana Comp. q. s. ad	℥vi

Teaspoonful every two or three hours.

It is evident that the prescriber is an eclectic. As a matter of fact, in a second letter from the physician who forwarded the prescription, we are informed that the prescriber is a graduate of an eclectic institution not a thousand miles from where he practices. The "Sp" in the prescription does not mean "Spiritus," but specific tincture. The prescriber is an advocate of specific remedies, one of which should fit the condition, but he is broad-minded enough to call help from the outside, and so adds fifteen other remedies to the specific selected, including alcohol. The inability of one mind to remember all the ingredients of so complex a mixture will explain the fact that ipecac is duplicated, occurring both as a specific tincture and as an ingredient of Bromoform Bronchial Anodyne. The latter, the manufacturers tell us, contains in one fluidounce:

Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.

Syrup Cocillana Comp., one of the "elegant specialties" of Parke, Davis & Co., of which they certainly ought to be very proud, contains, we are told, in one fluidounce:

Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera	120 min.
Syrup of wild lettuce	120 min.
Tinct. of cocillana	40 min.
Syrup of squill comp	24 min.
Cascarin, P. D. & Co	8 grs.
Menthol	8/100 gr.

This "elegant specialty" of Parke, Davis & Co. is not only a shot-gun prescription, but has as one of its ingredients a mixture itself containing three ingredients, namely: Syrup Squill Comp. (Coxe's Hive Syrup), making ten in all—a beautiful example of scientific pharmacy.

We wonder if our eclectic brother really appreciated that his prescription, written out, would be as follows:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. *macrotys*	ʒi
Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs
Benzoin	1 gr.
Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera	120 min.
Syrup of wild lettuce	120 min.
Tinct. of cocillana	40 min.
Fluidextract of squill	60 min.
Fluidextract of senega	60 min.
Antimony and potassium tartrate	1 gr.
Cascarin, P. D. & Co	8 grs.
Menthol	8/100 gr.

To use a slang expression, this is certainly going some!

Correspondence

Certified Butter in California

To the Editor:—Certification of butter in California was developed as an outgrowth of a series of experiments carried on in the laboratory of applied hygiene of the University of California by Mr. James M. Stephenson and myself. These experiments were undertaken to determine the need for municipal control of the butter supply of the city of Berkeley, and developed the presence of tuberculosis in much of the high-grade butter tested.

A review of the federal literature on the vitality of typhoid and tuberculosis bacilli in butter showed that previous experiments had been carried on with sweet cream butter. We therefore carefully followed the commercial process of souring and churning previously pasteurized cream. The cream samples were inoculated at the time of churning with pathogenic organisms, and the resulting butter was examined directly, plated and inoculated *into guinea-pigs intraperitoneally.*

Our results in brief were as follows:

Typhoid bacilli were recovered during the fourth week from endo-plates inoculated from broth subcultures of butter samples.

Diphtheria bacilli were recognized in smears made from blood-serum tubes inoculated with butter samples 26 days old, and guinea-pigs showed characteristic lesions at autopsy when inoculated from subcultures on blood-serum of butter 8 days old.

Generalized tuberculosis developed in guinea-pigs inoculated with butter 2 weeks old which had been contaminated at the time of churning by a small quantity of feces from a cow with tuberculosis.

In addition, generalized tuberculosis developed in guinea-pigs inoculated with three out of five high-grade butters obtained in open market. One of these had been intended as a control, as the butter was supposed to be made from pasteurized cream; but investigation revealed that not all of the cream coming to the butter factory was pasteurized.

Having been satisfied as to the need for pasteurized cream butter, the next step was the development of municipal butter control. For this purpose a score card for butter factories was devised on the basis of the federal score card for city milk plants, and a score card for butter which was in effect an extension of the present federal butter card. One of these cards gave due credit for pasteurization apparatus and its use, and the other gave ten points for a butter which would be Storch-test positive, showing that the cream had been heated to 80 C. It was also planned that butter factories where pasteurization was practiced might designate their product "inspected butter," under the supervision of the Berkeley Board of Health.

These points were incorporated in an ordinance governing the sale of milk products which was then submitted to the *Board of Health*, and by it recommended to the city council for passage.

A bill was also prepared and submitted to the California legislature, giving county medical milk commissions the authority to certify butter as free from pathogenic organisms, if the butter in question complied with regulations of the commission. The bill further penalized the use of the term "certified butter" without the authority of a medical milk commission. This bill has passed both houses of the present legislature, and the Milk Commission of the Alameda County Medical Association has agreed to adopt regulations for certified butter based on the pasteurization requirements as found in the milk-products ordinance of Berkeley.

The plan is not extreme, nor does it work a hardship on the producer. All butter in Denmark must be made from pasteurized cream, and it seems inconceivable that we have hitherto bent all our energies toward certified milk production and allowed this menace to our later years to persist without legislative correction. JOHN NIVISON FORCE, M.D., M.S.,

Lecturer in Hygiene, Univ. of California, Berkeley, Cal.

The Philadelphia Idea as to Medical Teaching

To the Editor:—In The Journal, February 25, p. 608, under the above heading, there is the following extraordinary statement, by Prof. H. A. Hare, of Philadelphia: "As a matter of historical fact, Jefferson Medical College was the first medical institution in America to establish clinical teaching."

Now, "clinical teaching" is as old in this country as medical colleges; for, at the very beginning of the Philadelphia Medical College (University of Pennsylvania), we find that such instruction was given the students in the Pennsylvania Hospital. The first medical diploma, that of John Archer, of Maryland, (1768), is signed by "Thomas Bond, Collegii & Academ. Curator et Praelec. Clinicus" (clinical lecturer), with the following endorsement: "Fidem facio Virum ornatum Joannem Archer Praelectionibus Clinici et Praxi in Nosocomio Philadelphiense interfuisse et Fructus Diligentiæ suae uberrime consecutum fuisse."

The younger Wiesenthal, of Baltimore, describes these clinics in letters to his father, while a medical student in Philadelphia, and the elder Wiesenthal (a most competent judge) speaks highly of Bond's qualifications for the task. The medical histories, as Mumford and Packard, show that these Philadelphia clinics were "rich and abundant."

Nor were the Boston, New York and Baltimore schools without their clinics. The New York Hospital was available from 1807 on, and the Massachusetts General Hospital was opened in 1821. In Baltimore, during the period from 1807 to 1823, clinical lectures were given by Davidge, Potter, William Gibson, Pattison, George Frick, the oculist (and author of the first American work on the eye) and others, at the Maryland Hospital, on Broadway, at the City Almshouse Hospital, on Harvard Street, and at Dr. Gibson's private hospital.

"As a matter of historical fact," however, the first medical school in the country to have its own hospital was the Department of Medicine of the University of Maryland. This was opened Sept. 20, 1823, in a building, especially erected for the purpose, just across the street from the medical college. It had at first four wards, one being for the eye.

Jefferson Medical College was founded in 1824, but the course of lectures did not begin until 1825. I have seen somewhere a statement by the late Prof. Samuel D. Gross, similar to that of Professor Hare, that Jefferson Medical College was the first in this country to establish a college hospital, which it did in 1825.

Eugene F. Cordell, M.D., Baltimore.
Professor of the History of Medicine, Univ. of Maryland.

Incomes of Physicians

To the Editor:—I enclose a newspaper article purporting to be an abstract of the address of Dr. H. W. Wiley of the Department of Agriculture. I have marked a paragraph in which he is quoted as saying: "There are 120,000 physicians in this country—120,000 men living on princely salaries because we ignore the possibility of our losing our health."

This article has been published broadcast and will give the public another wrong impression of our profession. People already think that physicians charge too much and this only adds to the false ideas as to the income of a medical man. Dr. Wiley knows that the average income of physicians in the United States is less than $1,000 a year. A princely salary, indeed! The physicians of this country are having a hard enough time to get along without such statements being made—false statements at that. The American Medical Association should take some action to contradict such statements.

F. E. Wallace, M.D., Pueblo, Colo.

[This letter was referred to Dr. Wiley, who replies as follows:]

To the Editor:—The remarks attributed to me in the address before the Republican Club were evidently made by one of the other speakers. I have forgotten which speaker it was who gave statistical data as to the number of sick people and the cost of their medical attendance, but it was not I. I said nothing at all about the matter. I did, however, say in an address before Columbia University on the evening of the same day that young men might just as well give up the idea that there was any learned profession which gave promise of princely salaries and I stated that in my opinion the average salary of the physicians of the United States was less than $1,000 a year, which is about the same as the estimate given by Dr. Wallace. I suppose that there are twenty-five or perhaps a hundred in this country who do earn "princely" salaries, but it never entered my mind that such earnings were common to the profession.

H. W. Wiley, Washington, D. C.

Plague in China

To the Editor:—I expected to take my furlough in the early spring . . . My plans have recently been changed owing to the arrival of the plague in this vicinity, making it necessary for me to remain at my post. . . .

I have been in the vicinity of plague before, but it was not like that which is surrounding us at the present time, viz., pneumonic and septicemic. The pneumonic is by far the most common. It seems to me to be reasonable to ascribe the presence of these two varieties to the intense cold and to the conditions under which the people live. The temperature is often 30 below zero and the Chinese huddle together on large brick beds, as they go up to Manchuria from the northern provinces of China to do coolie work. Under these conditions, if bubonic plague got under way it would not be strange if its virulence should increase and take on the more severe forms. The septicemic type seems to be less contagious, or the contagion does not emanate from the patient in a continuous stream as it does from the pneumonic variety. The matter vomited in the latter type contains the bacilli.

J. H. Ingram, Tungchou, Peking, China.

[Comment:—The above is taken from a letter of a subscriber who is writing on other matters. What is said regarding the plague is incidental. This is an example of one man sticking to his post in time of danger.—Editor.]

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EFECTS OF THIOSINAMIN

To the Editor:—I would like information from the profession at large in regard to the effects of thiosinamin. In a case of polymyositis I have been giving hypodermic injections of this drug. The patient has been affected with this trouble for more than a year and the muscles are in a stage of fibrous degeneration. The drug has been administered with the view of obtaining its reputed effect of causing an absorption of cicatricial tissues.

The patient has received two injections weekly for the past seven weeks with but little beneficial effect. After the last five injections, however, there has been a uniform marked reaction, as follows: About two hours after the injection of 3 grains of the drug a severe chill occurs, followed by a rise of temperature to about 102 F. This temperature persists for from twenty-four to thirty-six hours. After the first two days it is accompanied by profuse perspiration and marked heart weakness. During the second day improvement begins. By the third day the patient is in her usual condition.

I would like to know if any other physician has ever used this drug with benefit, and if they have seen any such reaction.

I am unable to find any literature relating to this effect.

Charles F. Clowe, M.D., Schenectady, N. Y.

Answer.—There are numerous reports in the literature in which beneficial results from the use of thiosinamin and the solution of thiosinamin and sodium salicylate are said to have been obtained. There is considerable doubt as to its permanent value in removing or softening scar tissue.

Thiosinamin poisoning has been reported in the last few years by a number of authors. Fever produced by this agent was noted by Hebra, who introduced the drug into medicine. His patient was tuberculous but free from fever. After the injections fever occurred, but it was uncertain whether it was due to the thiosinamin or to the tuberculosis.

Kunkel (Manual of Toxicology, 1901) reports headache, nausea, vomiting and lassitude after large doses (1 gm.) in man.

Brinitzer observed repeatedly attacks of fever up to 39.8 C. (103.6 F.) in a patient whom he was treating for scleroderma.

P. Grosse (*München. med. Wchnschr.*, April 28, 1908, p. 910) reports a case in which slight symptoms appeared after the first five injections, but the sixth was followed by a rise of temperature to 39.1 C. (102.4 F.), with weak pulse, loss of appetite, etc. A striking feature repeated in other cases was a loss of memory of the period in which the symptoms appeared.

Baumstark observed similar symptoms in a patient whom he was treating for cholecystitis.

F. Hayn (*München. med. Wchnschr.*, Feb. 15, 1910) reports a case in which the ordinary dose, 0.2 gm. (3 grains), produced chills and fever, severe headache, thirst and marked weakness. Severe vomiting occurred with the first symptoms of poisoning. In this case the symptoms began with the fifth dose.

R. Neisse (*Therap. Monatsh.*, May, 1910) reports a case of fever occurring after injection of solution of thiosinamin sodium salicylate in a patient in whom there was suspicion of tuberculosis, and recommends that caution be used in treating tuberculous individuals with thiosinamin.

Kölliker reports (*München. med. Wchnschr.*, July 19, 1910, p. 1550) a case of thiosinamin poisoning in a young woman to whom it was being administered for the relief of keloid. The first symptoms appeared after the fifth injection and consisted of chilliness, sweating, general malaise and severe headache. These symptoms appeared after every injection but were variable in duration. The headache lasted for from two to eight days and was entirely independent of the interval between the two injections. After an interval of nineteen days the symptoms of poisoning appeared with the same intensity as after an interval of one day. The injections, however, were continued and the treatment was successful. No influence on menstruation was observed.

HEMOPHILIA

To the Editor:—Two children, aged respectively 6 and 8 years, have been under my care since birth. On their mother's side they belong to a family of bleeders. They have severe attacks of epistaxis and also have frequent attacks of acute articular rheumatism; both have valvular disease. I have given suprarenal preparations and also the elixir of chlorid of calcium; both seem to do good, but for a short time only. Can you recommend anything better?

N. C. Miller, Stroudsburg, Pa.

Answer.—Good results have followed the use of normal blood-serum (rabbit, horse or man), locally, subcutaneously and intravenously. A serum injection of from 20 to 30 c.c., subcutaneously, usually suffices, although it may be necessary to repeat the injection daily or every two or three days if indicated. The ordinary antidiphtheritic serum has been used. It does not need to be fresh; Hare has used serum that had been kept for six months. It is possible that the attacks of "acute articular rheumatism" are in reality "bleeder joints," the pain being due to small hemorrhages into the joint and subsiding with absorption of the blood.

HICCUP NOT ATTRIBUTED TO BACILLI

To the Editor:—Please inform me if a bacillus causes hiccup (singultus). If so, has it been isolated, and by whom? I have a case of hiccup of three years' standing. Can you furnisa any literature on the subject or inform me where I can obtain any data?

F. H. Longley, M.D., North Platte, Neb.

Answer.—A bacillus of hiccup—singultus—has not been isolated and it is hardly expected that one will be found, since hiccup is merely a symptom. The condition is discussed in the various textbooks on medicine and therapeutics; there is practically no current literature in regard to it. We have reference to one article during the last five years:

Bassler, A.: Singultus Gastricus Nervosus, *New York Med. Jour.*, Aug. 13, 1910; abstr. in The Journal A. M. A., Aug. 27, 1910, p. 800.

Complications of Typhus Fever.—E. Legrain and R. Treille review their experiences in northern Africa and assert that disinfection of the sick-room and sterilization of the mouths of patients with exanthematous typhus have always proved effectual in warding off complications in their experience. In epidemics in which these measures were neglected, complications were frequent and severe. In their communication on the subject in *Afrique Médicale*, 1910, xi, 377, they report some typical cases of severe complications, parotitis, joint affections and psoitis in the course of convalescence. Other patients presented symptoms suggesting secondary pancreatitis, suppurative meningitis, or abscesses in the mouth and neck. They cite a description of typhus A. D. 1300, and others by Italian writers in the fifteenth and sixteenth centuries.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 11, 1911.

Stallman, George E., D.S., March 2, reported for temporary duty at Fort Clark, Texas.

Dougherty, James C., M.R.C., February 9, reports in field for duty along Mexican boundary.

Daywalt, George W., M.R.C., March 6, ordered to proceed to his home, and on arrival there will report to the adjutant general of the Army for further orders.

Allen, John H., major, March 8, left Fort Myer, Va., with 3d Field Artillery en route to San Antonio, Texas, for field duty.

Wickline, William A., captain; Schlanser, A. E., and Bastion, J. E., lieuts., March 9, left Walter Reed General Hospital, Takoma Park, D. C., with Co. C, Hospital Corps, en route to San Antonio, Texas, for field duty.

Bartlett, William K., captain, March 7, appointed member of commission to meet at Washington, D. C., relating to the establishment of maneuvering ground and camp of inspection, rifle and artillery ranges near Chickamauga Park, Ga.

Krebs, Lloyd Le R., captain, March 7, honorably discharged from the service of the U. S.

Birmingham, H. P., lieut.-col., March 7, assigned to duty as chief surgeon of division now being concentrated at San Antonio Park.

Persons, Elbert E., major, March 7, ordered to San Antonio, Texas, for duty in chief surgeon's office, division at that place.

Whitcomber, C. C., captain, March 7, ordered to San Antonio; Texas, for duty as medical supply officer.

Roberts, William M., major, March 7, relieved from temporary duty at Fort Oglethorpe, Ga., and ordered to proceed with the 11th Cavalry to Fort Sam Houston, Texas.

Straub, Paul F., major, March 7, ordered to proceed to San Antonio, Texas, for duty as sanitary inspector of division.

Truby, Willard F., major, March 7, ordered to proceed to San Diego, Cal., and report for duty as commanding officer of the field hospital at that place.

Dutcher, Basil H.; Gilchrist, Harry L.; Hartsock, F. M., and Patterson, Robert U., majors, March 7, ordered to San Antonio. Texas, to assume command of the four field hospitals to be assembled at that place.

Jones, Percy L., captain, March 7, ordered to San Antonio, Texas, for duty in command of Ambulance Co. No. 2 at that place.

Baker, David, major, and Darby, Taylor E., lieut., March 7. left Fort McPherson, Ga., en route to Fort Sam Houston, Texas.

O'Connor, R. P., major, March 8, left Fort Screven, Ga., with troops en route to Galveston, Texas.

Bartlett, William K., captain, March 8, left Fort Oglethorpe, Ga., *en route to Fort Sam Houston, Texas.*

Hill, Eben C., lieut., March 8, left Madison Barracks, N. Y., en route to *Fort Monroe, Va., for temporary duty.*

Ford, Joseph H., major, March 8, left Fort Wadsworth, N. Y., with troops for duty in Texas.

Persons, Elbert E., major, March 8, left Fort Jay, N. Y., en route to San Antonio, Texas.

Fauntleroy, P. C., major, March 8, left Fort Benjamin Harrison, Ind., with the 10th Infantry en route to Fort Sam Houston, Texas.

Halliday, Charles H., M.R.C., March 9, left Fort Fremont, S. C., en route to Jackson Barracks, La., for temporary duty.

Waterhouse, S. M., major, March 9, left Fort Washington, Md., with troops en route to Fort Monroe, Va., and for duty in Texas.

Long, Charles J., D.S., March 9, left Fort Andrews, Mass., *en* route to Fort Constitution, N. H., for temporary duty.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 18, 1911.

Cecil, A. B., asst.-surgeon, detached from the *Nebraska* and ordered to the naval station, Gauntanamo, Cuba.

Changes during the week ended March 11, 1911.

Olcott, F. W., P. A. surgeon, commissioned passed assistant surgeon from Feb. 13, 1911, and transferred to the retired list from that date.

Richardson, R. R., surgeon, detached from the navy yard, Portsmouth, N. H., and ordered to the *Prairie*.

Downey, J. O., P. A. surgeon, detached from the naval hospital, Philadelphia, and ordered to the *Prairie*.

Pugh, W. S., P. A. surgeon, detached from the naval hospital, New York, and ordered to the *Dixie*.

Elmore, B., A. A. surgeon, commissioned acting assistant surgeon from March 4, 1911.

Beyer, H. G., medical director, commissioned medical director from Feb. 27, 1911.

Mink, O. K., P. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *West Virginia*.

Miller, J. T., P. A. surgeon, detached from the Navy recruiting station, St. Louis, and ordered to the *Franklin*.

Abeken, F. G., P. A. surgeon, detached from the *West Virginia* and ordered to the Navy recruiting station, St. Louis.

Higgins, M. E., P. A. surgeon, ordered to the naval medical school, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 8, 1911.

Cofer, L. E., assistant surgeon-general, granted ten days' leave of absence from March 6, 1911.

Pettyjohn, J., P. A. surgeon, granted one month's leave of absence from Feb. 23, 1911, on account of sickness.

Hamilton, H. J., A. A. surgeon, granted seven days' leave of absence from March 6, 1911.

Schug, F. J., A. A. surgeon, leave of absence for thirty days from Feb. 18, 1911, revoked.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

The progress of legislation and the new bills introduced regarding which THE JOURNAL has been informed, are reported below by states.

ALABAMA

A bill is introduced by Senator Justice to amend the existing medical practice act by giving the State Board of Medical Examiners power to revoke a physician's certificate for use of liquor or narcotic drugs to such an extent as to render him unsafe or unreliable as a practitioner; being so infirm mentally as to render him unsafe and unreliable; being guilty of gross immorality and unprofessional conduct likely to deceive, defraud or injure the public; advertising himself or his practice; inducing or aiding in inducing a criminal abortion; performing an operation of major surgery when his certificate does not entitle him to do so or being convicted of any offense involving moral turpitude. The bill also provides the manner of bringing charges and of procedure on the part of the board. This bill has passed the senate. An optometry bill has also been introduced.

CALIFORNIA

The senate has passed a bill making it a felony to trade in medical certificates or diplomas from medical colleges or to use the title of "doctor" or any other title having a similar meaning for fraudulent purposes. A bill has also passed the senate providing that an applicant for a license to practice medicine or other form of healing who passes the examination in seven of the ten required subjects shall be allowed a reexamination in the remaining three. A bill to repeal the compulsory vaccination law has passed the lower house. A bill to amend the present medical practice act has been defeated in the senate.

COLORADO

The following bills have been introduced: to regulate slaughter houses; a meat inspection bill; to create local boards of health; to provide for the medical inspection of school teachers and children for contagious diseases; to regulate the use of the common drinking cup; to prohibit the sale of undrawn cold storage poultry, fish or game; to amend the vital statistics law; to provide for the sanitary keeping, storing and transportation of foodstuffs; to repeal the compulsory vaccination law; to provide for the sanitation of bakeries, canneries, packing houses and all places where food is prepared, manufactured, packed, stored, sold or distributed; to provide for dental examination of children; to regulate the location of sanitariums for tuberculosis; to regulate the sale of habit-forming drugs; to provide for the supervision of lying-in hospitals and maternity homes; to regulate embalming; to establish a chiropractic board of examiners; to establish an optometry board of examiners and to amend the pure food law.

CONNECTICUT

An optometry bill has been introduced, also a bill to repeal the compulsory vaccination law. Several bills to amend the act of 1909 establishing country homes for the care of tuberculosis, have been introduced. One of the most unusual of state enactments is a bill passed by the Connecticut legislature giving Stephen Benoni Sweet, son of Dr. J. Byron Sweet, a member of the lower house of the legislature, the right to practice bone-setting and to call himself "doctor." According to newspaper reports, this act is due to the "wonderful gift that has been in the Sweet family since 1630." No statement appears in the press reports as to why this "wonderful gift" was not supplemented by a course of medical instruction.

ILLINOIS

The following bills have been introduced in the Illinois legislature: H. B. 29, to amend the employer's liability law; H. B. 94, to enable boards of education in cities to establish classes and schools for deaf, dumb, crippled children, blind, truant, subnormal, convalescent and incipient invalid children; H. B. 140, to establish a surgical institute for children; H. B. 146, to provide a pension fund for municipal employees; H. B. 152, to prevent fraud in the sale of dairy products, etc.; H. B. 153, to regulate the sale of concentrated food stuffs; H. B. 154, to regulate the manufacture, packing, storing and sale of food articles; H. B. 169, to make appropriations for the maintenance of the College of Medicine of the University of Illinois; H. B. 193, to regulate hotels, inns and lodging houses; H. B. 201, to regulate the practice of chiropody; H. B. 213, to authorize the improvement of streams; H. B. 214, to create a state board of forestry; H. B. 215, to create a state board of education; H. B. 241, to revise the divorce law by making the habitual use of morphin for two years grounds for divorce; H. B. 260, to protect employees of the state from the dangers of occupational diseases; H. B. 260, to regulate the work of children under 16 years of age; H. B. 380, to amend the medical practice act; S. B. 246, to amend the coroners' law; S. B. 249, to revise the law regarding the commitment and detention of lunatics; S. B. 260, to provide for the inspection, license and regulation of cold storage houses; S. B. 264, to amend the factory inspection law, and S. B. 459, to establish a state colony for epileptics.

INDIANA

The school medical inspection bill, drafted by the State Board of Education, to authorize school authorities to institute medical inspection of school children and to make such inspection compulsory after 1915, passed the senate. It further authorizes the State Board of Health and the State Board of Education to prepare leaflets on the prevention of disease and the conservation of health and to teach these subjects in all public schools. It also provides for sanitary sites and buildings for public schools and for proper heating, lighting and ventilation. A bill has been introduced to provide for the reporting of all defective children to the State Board of Health; also a weights and measure bill, to establish standards and to authorize the State Board of Health, through its food and drug inspectors, to enforce these standards. A bill to appropriate funds for a state hospital for tuberculosis and for the collection of vital statistics has been introduced. A bill has passed the house to require medical examination and certification of freedom from venereal diseases on the part of male applicants for marriage licenses. A bill to require a license fee of $10 a month for itinerant vendors has been introduced in the house; a child labor bill, a bill to prevent spitting in stores, public buildings and public places, and a bill to regulate the storing of food products in cold storage warehouses, have also been introduced. Governor Marshall has signed the cold storage label bill, the medical inspection bill and the ophthalmia neonatorum bill. A bill introduced by Senator Stotsenburg would provide for the issuance of medical licenses without examination until July 1, 1911. It is alleged that this bill was introduced for personal reasons, in order to obtain a license for a woman who has failed to pass the state board examination. The bill is opposed by the state board of medical examiners and the state society. Dr. W. T. Gott, secretary of the state board, states that there are about 600 persons in Indiana who have failed to pass the state board examination who would take advantage of this opportunity to register, as well as many others from the surrounding states who would flock in at once. Probably the bitterest fight in the legislature has been over the Gers bill, which was intended to deprive the secretary of the State Board of Health of most of his power. The bill was voted down by the senate, 41 to 7.

IOWA

A bill to change the composition of the State Board of Medical Examiners has passed the house. This bill provides that in addition to the superintendent of public instruction, the state board shall consist of one county superintendent, one member of the school board, one superintendent of city schools, one primary teacher and one teacher of a rural school. A bill to abolish the state board of veterinary examiners has been introduced. A bill to provide for the sterilization of criminals, idiots, feeble-minded and epileptics, modeled after the Indiana law, has been introduced.

KANSAS

A bill to appropriate $100,000 to build a clinical hospital in Kansas City, Kan., in connection with the Kansas University Medical School, has been introduced; also a bill to provide for the registration of births and deaths, drafted on the lines of the model bill of the American Medical Association. This bill has been favorably reported on by the house committee.

MAINE

The osteopathic bill has been defeated in the senate by a vote of 15 to 14 and in the house by a vote of 91 to 36. A bill to prohibit the issuance of insurance policies protecting physicians and surgeons against malpractice damages has also been defeated. A bill to amend the medical practice act has been introduced.

MASSACHUSETTS

A large number of bills of interest to the medical profession have been introduced, among them bills to prohibit the sale of intoxicating liquor and narcotic drugs to hospital patients; to regulate the cold storage of food products; to regulate the lighting of factories and work shops; to regulate meat inspection; to regulate the sale of cocain; to regulate the practice of healing by unregistered physicians; for the prevention of cruelty to animals; to regulate the distribution of milk; to prohibit spitting in public places; to require practitioners of Eddyism and hypnotism to register with the State Board of Health; to prohibit the use of suction shuttles in factories; to regulate the sanitary arrangements of factories, work shops, etc.; to regulate the sale of opium; to provide for the disinfection of public telephone stations; to regulate the cutting of ice, and to establish a board in optometry.

MICHIGAN

A "chiropractic" bill has been introduced.

MINNESOTA

A bill has passed the senate to create a state tuberculosis commission and to authorize the establishing of public tuberculosis sanatoriums in each congressional district. This bill has been prepared by the legislative committee of the Minnesota Association for the Prevention and Relief of Tuberculosis. An itinerant vendors' bill has been introduced and a bill to authorize the appointment of sixty-three state medical inspectors and sanitary inspectors.

MISSOURI

A bill to establish a board of examiners in optometry has been defeated in the senate. A bill to require all who profess to cure physical and mental ills to have diplomas from medical colleges has been introduced.

MONTANA

The Montana legislature has adjourned. The following bills have become laws: S. B. 134, providing that sewage systems must be approved by the State Board of Health and relating to the pollution of water supply; H. B. 27, regulating the sale of habit-forming drugs; H. B. 115, providing for the payment of physicians in insanity examinations; H. B. 290, prohibiting the possession or sale of toy pistols, blank cartridges and explosive caps; H. B. 34, the pure food law; H. B. 121, the dairy law, and H. B. 139, providing for state veterinary surgeons passed both houses and are now in the governor's hands; H. B. 364, to regulate the lighting, heating and ventilating of public buildings was not passed. The bill providing for a tuberculosis sanitarium passed both houses and has been signed by the governor; also a bill appropriating $5,000 for 1911 and an equal sum for 1912, to continue the investigation of spotted fever.

NEVADA

An osteopathic bill passed the house but failed to pass the senate. Bills to amend the medical practice act to create a state board of health have been introduced.

NEW HAMPSHIRE

Bills have been introduced to amend the medical practice act, to prevent the pollution of the Winnepesaukee River, to regulate weights and measures and to provide for the medical inspection of schools.

NEW JERSEY

An osteopathic bill, a bill to regulate cold storage and a bill to raise the standard of medical practice in the state have been introduced.

NORTH DAKOTA

A bill to regulate the management of hospitals has been introduced, containing a section providing that no major operation shall be performed on any patient in any licensed hospital, except in an emergency, until the attending surgeon has filed with the superintendent of the hospital a statement giving the reasons for the operation and the pathologic conditions which render it necessary. This statement must be approved and signed by an independent physician not in any way a financial beneficiary from the operation. An additional section provides that all diseased organs or tissues removed in the course of an operation must be sent to the state public health laboratory for examination.

OHIO

An optometry bill, similar to the one which Governor Harmon vetoed last year, has been introduced; also a bill for instruction of persons suffering from tuberculosis; a bill for the sterilization of criminals, imbeciles, epileptics and others; a bill to regulate the medical inspection of public school children; a bill to regulate the sale of articles of food held in cold storage; a bill to authorize boards of health to establish dispensaries; a bill to regulate the requirements for admission to any college of law, medicine, dentistry or pharmacy; a bill to provide for the proper certification of deaths in municipal hospitals; a bill to make vaccination optional and a bill separating inmates of the penitentiary and reformatory suffering from tuberculosis. A housing bill, endorsed by the associated charities of the state, as well as a sanitary bill, placing all members of the sanitary police force under civil service, and a bill to place infantile paralysis and ophthalmia neonatorum on the list of communicable diseases, have also been introduced.

OREGON

A bill has been introduced to recognize "Naturopathy."

PENNSYLVANIA

An optometry bill has been introduced, also a number of bills to regulate the practice of medicine. A bill to authorize the sterilization of idiots, feeble-minded and insane persons has been introduced; also a bill to regulate the sale of cocain; a bill to appropriate $425,000 for Jefferson Medical College and a bill to prevent the issuance of marriage licenses to imbeciles, epileptics or persons afflicted with a transmissible disease or under the influence of intoxicating liquors or narcotic drugs, have also been introduced.

RHODE ISLAND

The usual osteopathic bill has been introduced.

TENNESSEE

A vital statistics bill has been introduced; also a bill to create county boards of health; a bill to amend the pure food law and a bill to provide for medical inspection of schools.

TEXAS

An optometry bill has been introduced; also a bill to appropriate $150,000 for a tuberculosis sanitarium and a bill to incorporate the sanitary code of the health department as a law and to reenact the law creating the State Board of Health; a bill to exempt graduates of the Medical Department of the State University from examination by the state board has been reported on adversely by the house committee.

UTAH

A bill to empower the State Board of Health to revoke the licenses of physicians who fail to report contagious diseases and deaths; also a bill to regulate the sale of narcotic drugs, and a bill to provide for the examination of school children have been introduced.

WASHINGTON

A bill to provide for the appointment of a tuberculosis commission has been introduced; also a bill to amend the medical practice act. The State Board of Health is supporting a bill for the supervision and preservation of the water supplies for cities; also a bill to remove the health officers of the state from politics and to place them under the control of the State Board of Health.

WEST VIRGINIA

Governor Glascock has signed a bill to establish a state tuberculosis sanitarium, and a bill to regulate the sale of habit-forming drugs; a bill to establish medical inspection in public schools has become a law; a bill to amend the child labor law has passed the house; two bills to amend the medical practice act in an undesirable manner have died in the committee.

WISCONSIN

The following bills have been introduced: *for the prevention* and suppression of contagious diseases among live stock; to abolish the use of the common drinking cup on railway trains; for the prevention and control of dangerous communicable diseases; to regulate the hours of labor for women in manufacturing establishments; to provide for the registration of nurses; one relating to the organization of local boards of health; to regulate the pollution of streams and public waters; to regulate the sale of undressed poultry; to provide for the medical inspection of public school children; to forbid expectoration in public places; to make provision for the care of indigent, crippled and deformed children; to provide for the incorporation of medical milk commissions and the certification of milk.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Third Weekly Meeting

Diseases of the Ovaries

Oophoritic Cysts: Glandular and dermoid; pathology and description of each.

Paroophoritic Cysts: Pathology, description.

Complications of Ovarian Cysts: Inflammation, hemorrhage, twisting of pedicle, rupture and adhesions; symptoms and diagnosis of each.

Diagnosis of Ovarian Cysts: Pelvic stage: Position, mobility, relations, shape and consistency of tumor. Abdominal stage: Physical signs on inspection, palpation, percussion, mensuration, auscultation. Exploratory incision.

Differential Diagnosis: Differentiate from pregnancy, phantom tumor, encysted ascites, fibrocyst of uterus, cystic tumor of kidney.

Parovarian Cysts: Pathology: Size, characteristics, cyst wall, contents. Symptoms: Pressure symptoms, menstrual disorders, sterility.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 3-4. Sec., Dr. Ancil Martin.

California: San Francisco, April 4. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg.

Colorado: Denver, April 4. Sec., Dr. S. D. Van Meter, 1723 Tremont Place.

District of Columbia: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

Georgia Eclectic: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

Idaho: Boise, April 4-5. Sec., Dr. O. J. Allen, Bellevue.

Minnesota: State University, Minneapolis, April 4. Sec., Dr. W. S. Fullerton, 215 American National Bank Bldg., St. Paul.

Montana: The Capitol, Helena, April 4. Sec., Dr. William C. Riddell.

Oklahoma: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

Rhode Island: State House, Providence, April 6-7. Sec., Dr. Gardner T. Swarts, State House.

Utah: Salt Lake City, April 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.

West Virginia: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

A Diploma Factory

In September, 1910, there came to this office several copies of a circular advertising the Gate City Medical College of Dallas, Tex. (formerly of Texarkana, Tex.). This circular was widely distributed through the southern states. It gave no street address for the college but contained the following specific directions as to how an applicant might reach the right parties:

> When you arrive in Dallas go to some hotel or business house and call us over the telephone. Our number is Main 3941 and Main 6631, or take the Hickory Street car and come to the Hickory Street drug store, corner Hickory and Nettie Streets, where you can get all desired information. Hickory cars pass in front of the postoffice, making it easy to find.

The suggestion was made to a Mississippi physician, who had sent us one of the circulars, that he endeavor to learn on what terms a diploma might be obtained, whereon he sent the following letter:

> ———, Miss., Oct. 8, 1910.
>
> Dr. J. W. Decker, Dean,
> Dallas, Texas:
>
> Dear Sir.—I am convinced of the great nead of a Diploma for a practitioner. I wish I could atend the Gate City Medical College but I have a very large practice No Doctor in 15 miles and sickness in my family. It is impossible for me to come. I would not mind the expense. Is it possible for me to pay like I was there and you give me the Diploma without Coming. I am a lisensed Doctor and can give best references.
>
> Your friend, ...

And here is the reply:

> Gate City Medical College
> J. W. Decker, M.D., Dean.
> Dallas, Texas. ———190
>
> Dear Doctor ———.
>
> In reply to yours of some days ago I will say that I can arrange to give you some home reading and give you a diploma same as if you were here. It will be genuine and will be entered upon the records same as if you were here, and you can refer to us as a graduate of the school at any future time should you wish to do so as many have done.
>
> Very truly yours,
> J. W. Decker, M. D., Dean.
>
> P. S. The whole fees will be only $50 professors fee. No extra charges for anything else and I will guarantee you to get your diploma D.
>
> If satisfactory send fee at once and I will send you some work to be looking over and enter your name for a diploma. Give me your full name.

In the meantime one of the circulars and copies of the above correspondence were sent to the former secretary of the Texas State Board of Medical Examiners, who referred the matter to the board's attorney, Mr. J. N. Wilkerson. The attorney reported that he personally called at Dr. Decker's office and that he succeeded, in about half an hour, in purchasing outright two diplomas for the stipulated sum of $50, without having ever taken any medical work and without having passed an examination. The so-called regular diploma, he said, was printed in Latin, since avowedly that "would fool 'em," and the other was a special certificate for a special course on the diseases of women and children. It is stated that these diplomas were dated two years back to "show additional experience." The attorney further states that the federal court found a bill of indictment against Decker for using the United States mails to promote a fraudulent scheme.

Virginia December Report

Dr. R. S. Martin, secretary of the Virginia State Medical Examining Board, reports the written and oral examination held at Lynchburg, Dec. 20-23, 1910. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 35, of whom 28 passed and 7 failed, including 1 osteopath. Eight reciprocal licenses were granted. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
George Washington University	(1909)	75
Howard University, Washington, D. C.	(1904)*	
College of Physicians and Surgeons, Chicago	(1908)*	
University of Louisville	(1910)	78, 85
University of Maryland	(1910)	80, 81
Baltimore Medical College	(1909)	77
College of Phys. and Surg., Baltimore	(1904)* (1910)	82
Maryland Medical College	(1909)*	
Johns Hopkins University	(1910)	83
University of Buffalo	(1895)*	
Leonard School of Medicine	(1907) 76; (1909) 78; (1910)	75, 80.
Hahnemann Medical Coll. and Hosp., Philadelphia	(1894)*	
University of Pennsylvania	(1897)* (1906)*	
University of the South	(1904)*	
Vanderbilt University	(1901)*	
Medical College of the State of South Carolina	(1910)	79
University College of Medicine, Richmond	(1910)	76
University of Virginia	(1910) 77; (1911)†	84
Medical College of Virginia	(1900)* (1910)	88

FAILED

College	Year Grad.	Per Cent
Maryland Medical College	(1909)	61
College of Physicians and Surgeons, Boston	(1907)	73
Leonard School of Medicine	(1908) 73; (1910)	71
Hahnemann Medical Coll. and Hosp., Philadelphia	(1896)*	
University of the South	(1908)	68

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Georgetown University	(1900)	Dist. Colum.
Howard University, Washington, D. C.	(1890)	Kentucky
Tulane University of Louisiana	(1903)	Louisiana
Maryland Medical College	(1901)	N. Carolina
University of Maryland	(1909)	W. Virginia
Hahnemann Med. Coll. and Hosp., Philadelphia	(1907)	Dist. Colum.
Tennessee Medical College	(1904)	Tennessee
University College of Medicine, Richmond	(1909)	N. Carolina

* Took oral examination.

† Certificate will not be granted until applicant gets diploma in June, 1911. Full course completed, but will not receive diploma until above date.

Vermont January Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Montpelier, Jan. 10-12, 1911. The number of subjects examined in was 13; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 11, of whom 10 passed and 1 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent
College of Physicians and Surgeons, Baltimore	(1909)	84.3
Harvard University Medical School	(1908)	82.8
University of Vermont, (1910) 76.1, 79.2, 80.4, 81.1, 82.7, 83.5, 84.3, 86 5.		

FAILED

College	Year Grad.	Per Cent
College of Physicians and Surgeons, Boston	(1909)	73 8

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Hahnemann Medical Coll. and Hosp , Chicago	(1908)	Illinois
Maryland Medical College	(1910)	Maine
Boston University	(1896)	New Hamp.
Hahnemann Med. Coll. and Hosp., Philadelphia	(1900)	New Jersey
Laval University, Quebec	(1907)	Maine

Book Notices

Induced Cell-Reproduction and Cancer. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. By Hugh Campbell Ross, M.R.C.S. (Eng.), Surgeon, Royal Navy (Emergency List). Being the Results of Researches Carried Out by the Author with the Assistance of John Westray Croper, M.B., Assistant to the Research Department of the Royal Southern Hospital, Liverpool. Cloth. Price, $4.50 net. Pp. 423, with 129 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The object of this ambitious book is to present the details obtained by the study of living human cells under the microscope and the bearing of the results especially on the causation of cancer. The living cells, principally blood-cells, "are examined by placing them, under a cover-glass, on the surface of a film of jelly, which may contain dissolved in it any substance we may wish to experiment with, and which has, while in a molten condition, been poured on the microscopic slide and allowed to set there." The substance used in making the jelly is agar. It proving impossible to prepare permanent specimens by fixation of the jelly films, a rapid and ingenious method of photomicrography was worked out so that the appearances presented by the cells under observation could be reproduced accurately at any moment. The illustrations in the book have been made from photographs thus obtained.

Ross has found that by means of certain diffusible substances mixed with the jelly, leukocytes and other cells placed on the jelly may be caused to divide (once only) under the eye of the observer. This is the "induced cell reproduction." Such substances are called "auxetics," from the Greek meaning "exciters of reproduction." Among these substances are besides atropin and other alkaloids, xanthin, creatin, globin; now because these last and similar bodies occur in dead and disintegrating tissue, the cell proliferations of simple healing of wounds and of tumors are traced to the "auxetic" action of the bodies just mentioned—"the remains of dead tissue." On the basis of this notion chronic ulcers have been treated with applications of globin; the authors remark. "We think we can say safely that it causes more rapid healing of them than if they were treated in the usual way." The view that carcinoma is the result of "auxetics" the action of which is augmented by cholin, cadaverin and other putrefactive alkaloids and "the crucial experiment" are discussed in the last two chapters. It was found that normal serum has the power to restrain the "natural" auxetics from inducing cell-division and it was resolved to try to increase in the cancer patient the amount of this restraining body by injecting 6 ounces of defibrinated sheep's blood per rectum every morning. "The serum contains the restraining body, and it was argued that the red cells would be destroyed in the rectum, the hemoglobin decomposed, and in time the globin would become augmented by the action of the bacteria present. It was presumed that the restraining body of the serum, the auxetic in the globin and in the remains of the white cells, and lastly, the products of the decomposition would be gradually absorbed, and that they *might* raise the content of restraining body in the patients: in other words, they might act as a sort of vaccine." In the *two principal cases* in which this treatment was employed it is not known whether the patients had carcinoma or not; in both there seemed to be some temporary improvement. But the real "crucial test" was made on a patient with an ulcerating inoperable carcinoma of the breast; a part of the ulcer was treated with globin until the glistening malignant surface gave place to normal granulation tissue as shown by microscopic examination; a mixture of five parts of globin and one part of cholin was evaporated to dryness and small pieces applied to a minute area of the edge of the treated part of the ulcer. "In forty-eight hours a conical excrescence appeared at the seat of application" with "apparently new malignant cells." Ross freely admits that "this test is by no means conclusive."

Ross' studies of the behavior of living cells outside the body are of interest. That his "induced cell reproduction," which is the corner-stone of the whole work, is a real cell division of the same nature and significance as that which takes place in the body, is unproved. Successive generations of living cells must be produced *in vitro* before his claims on this point will stand.

So far as the applications of the observations to cancer are concerned, the credulousness of the author and the imprudence of the publishers' circular in speaking of the methods used as indicating "that the cause of cancer has been discovered and a way opened for successful treatment" cannot but cause amazement.

A System of Syphilis. In Six Volumes. Edited by D'Arcy Power, F. R. C. S., and J. Keogh Murphy, F.R.C.S. With Introduction by Sir Jonathan Hutchinson, F.R.S. By Various Authors. Cloth. Price, $13.50. Vol. V, pp. 356, with illustrations. Vol. VI, pp. 514, with illustrations. New York: Oxford University Press, 1910.

These two volumes, closing the "System," contain a group of articles which consider various special topics belonging to a complete exposition of syphilis. Being exhaustive articles on special subjects in syphilis, written by men of authority in the various fields, the contributions are all of them interesting and useful and some of them are notable.

Volume V contains "Affections of the Skin in Syphilis," by Phineas S. Abraham and Haldin D. Davis; "Ocular Syphilis," by C. Devereux Marshall; "Aural Syphilis," by C. Ernest West, and "Syphilis in the Upper Air Passages," by St. Clair Thomson. All of these authors are well known and their contributions are of the high character that would be expected of them. Each of the articles is very full: one may consult any of them for almost any fact in its scope, and they are thus exceedingly useful possessions for any medical library. They are all copiously illustrated, with colored illustrations for the most part. These illustrations, as those in the other volumes, constitute a valuable feature of the work. The English color prints of pathologic objects have not reached the remarkable excellence that we have become used to in recent German publications, but these are good and they serve their purpose of depicting for the reader the conditions which they are intended to portray.

Volume VI is unique, in that it brings together in one book a complete consideration of syphilis in the public services especially the army and navy. It is a very proper conclusion to such a system, and is an eminently valuable work.

Its scope is shown by the titles and authors of the various papers: "Introduction," by Sir Alfred Keogh, late Director-General of the Army Medical Service; "The History and Epidemiology of Syphilis in the More Important Armies," by Lieut. Colonel Charles H. Melville of the Royal Army Medical College; "Pathology and Microbiology of Syphilis as Applied to the Public Services," by Captain L. W. Harrison; "Clinical Course and Treatment of Syphilis in the Army," by Major C. E. Pollock; "Syphilis in the U. S. Navy," by Surgeon Charles N. Fiske; "The Epidemiology of Syphilis in the Royal Navy," by Fleet Surgeon E. P. Mourilyan; "The Practical Treatment Afloat of Syphilis in the Royal Navy," by Surgeon Charles K. Bushe.

It is evident from this enumeration that there must be considerable repetition in some of these contributions of matter discussed elsewhere in the "System," but this is a small objection in comparison with the very valuable lights thrown on the sociologic aspects of syphilis by a consideration of it from the standpoint taken in this work. Since syphilis first spread over Europe with the mercenaries of the army of Charles VIII of France, armies and navies have always been fruitful fields for syphilis, and this volume is a veritable thesaurus of knowledge in this field. We know of no single place where such a collection of knowledge of this sort is available.

In conclusion, a word of strong commendation should be said for the "System" as a whole. We believe that the time spent in reading its six volumes will be found very profitable in additions to the knowledge of even the well-informed reader, while many of the topics considered have been treated with so broad a view and contained so much of unusual information that their reading will afford the pleasure that comes from stimulated interest. The "System" constitutes a notable contribution to the permanent literature of syphilis and is an honor to British medicine. But it is more than that; such a monumental work can hardly hope for adequate monetary returns from its sales, so that its publication is a credit to the spirit which insured its issue and to the fine zeal for the advancement of knowledge of its editors and contributors. It is a work which highly deserves to be in every scholarly physician's library.

Three Contributions to the Sexual Theory. By Prof. Sigmund Freud, LL.D., Vienna. Authorized Translation by A. A. Brill, M.D., Clinical Assistant, Department of Psychiatry and Neurology, Columbia University. With Introduction by James J. Putnam, M.D. Paper. Price, $2. Pp. 91. New York: The Journal of Nervous and Mental Disease Publishing Co., 1910.

No man in modern neurology can boast of more ardent adherents and more violent enemies than Sigmund Freud, of Vienna. Not even his critics, however, can deny that he is a pioneer in a field hitherto but little cultivated. But while neurologists are discussing the merits and demerits of Freud's theories of the neuroses, the members of the medical profession as a whole know little of the points at issue. Unfortunately for the English reader, the German text of Freud's scattered articles is rather involved and abounds with a newly created, and therefore unknown, terminology. Hence the many misunderstandings. It is therefore well that the translation of the "Selected Papers on Hysteria and Other Psychoneuroses" has been followed by a translation of the "Three Contributions to the Sexual Theory." Whatever views one may hold concerning Freud's theories, it is essential that they be based on a first-hand acquaintance with the author's writings, not the least important of which is the present volume. As Putnam has already stated, no one can understand Freud's views until he has carefully read the several fundamental articles on which these are based. Brill's attractive translation of the present volume is the more welcome as it will have a tendency to moderate the tone of those of Freud's critics who only half-understood the author's meaning in the original German text. Careful reading of this interesting monograph carries the conviction that regardless of the question whether or not his psycho-analysis and mental catharsis will ever become popular, Freud has probed the innermost recesses of the normal and abnormal human mind. The contributions deal with (1) the sexual aberrations, (2) the infantile sexuality, and (3) the transformation of puberty. Psychologist, educator, jurist and physician will therein discover viewpoints on the sex-question which must stimulate further research in this hitherto neglected field.

Syphilis: Its Diagnosis, Prognosis, Prevention and Treatment. By Thomas P. Beddoes, F.R.C.S., Surgeon to the London Hospital for Diseases of the Skin. Cloth. Price, $2 net. Pp. 224. New York: Paul B. Hoeber, 1910.

In this work the author gives most of his attention to the cutaneous manifestations of syphilis. In addition, the clinical course, including the symptoms of the disease as a general infection, is given, but syphilis of the various structures besides the skin is given such brief consideration that the work can hardly be regarded as covering the subject of syphilis. For example, syphilis of the vascular system is given six small pages, about 1,500 words; syphilis of the bones, six pages; and that of the nervous system, including parasyphilitic diseases, five pages.

The author evidently has first-hand knowledge of syphilis, but, like so many of our English colleagues, is extremely careless in his manner of imparting it to others. Every cutaneous lesion, from roseola to ulcerating gummata, is a "rash." "The macule . . . is the first rash to appear." Of course a macule is an individual lesion and not a "rash." Such examples could be multiplied at length. The work cannot be said to be up to date. There is no distinct consideration of the serum-complement reaction in the diagnosis of syphilis; no reference to it in the index; and a rather careful reading of the work does not leave in our mind any memory of a single reference to it. Under prophylaxis no reference is made to Metchnikoff's important contribution to the subject—the most important contribution of recent years. Of course a work which leaves out such important additions does not satisfactorily represent the subject. Perhaps the explanation of the lack of consideration of these comparatively recent additions to syphilology lies in the fact that the work is older than it seems; an explanation that is supported by the observation that, while the publisher's imprint bears the date 1910, the author's preface is dated 1908—and these days knowledge is moving fast in syphilis.

The Mental Symptoms of Brain Disease. An Aid to the Surgical Treatment of Insanity, Due to Injury, Hemorrhage, Tumors and Other Circumscribed Lesions of the Brain. By Bernard Hollander, M.D. With Preface by Dr. Jul. Morel, Late Belgian State Commissioner in Lunacy. Cloth. Price, $2. Pp. 237. New York: Rebman Co., 1910.

In this work, the author deals with insanity based on focal lesions in the brain. Through the study and proper interpretation of symptoms, their mode of onset and associated conditions, he emphasizes the possibility of making a true pathologic diagnosis. Hollander cites many case records collected from various sources, including many of his personal observations, which demonstrate this possibility of localizing mental diseases. His study of these cases has enabled him to attach certain symptoms to lesions in the frontal lobes where the centers of perception and of special memories are located. He discusses lesions in the parietal, temporal and occipital lobes in a similar manner. The study of such mental diseases demands that one should be a close student of psychology. Dr. Hollander does not state that surgery should be employed in the majority of cases of insanity, but believes that a certain per cent. of these cases if studied early in their course may be greatly benefited by surgery.

Manual of Surgery. By Alexis Thomson, F.R.C.S., Professor of Surgery, University of Edinburgh, and Alexander Miles, F.R.C.S., Surgeon, Edinburgh Royal Infirmary. Vol. I, General Surgery. Pp. 886, with 339 illustrations. Vol. II, Regional Surgery. Pp. 861, with 227 illustrations. Third edition. Cloth. Price, $7. Pp. 861, with 227 illustrations. New York: Oxford University Press, 1909.

This is a comprehensive and systematic review of modern surgery, sufficiently detailed for the practitioner and not beyond the scope of the manual for students. It incorporates the important advances of the past two years, since the second edition, such as the Bier treatment, vaccine therapy, and the newer surgery of the peripheral nerves as worked out by Head and Sherren. Less attention is paid to description of operations than to careful description of symptoms, pathology and indications including principles of operating

The book is quite up to date in matter likely to be considered catch questions by examination boards, such as "snapping hip," "Madelung's deformity," and other rare conditions. The work is a standard compact summary of the best method of the Edinburgh school and should prove useful to medical students and practitioners everywhere. The illustrations consist of photographs and wood-cuts. The volumes are small and compact.

A Handbook of the Surgery of Children. By E. Kirmisson, Professor of the University of Paris. Translated by J. Keogh Murphy, F.R.C.S., Surgeon, Miller General Hospital for South East London. Cloth. Price, $7. New York: Oxford University Press, 1910.

This book may be considered as a compilation of surgical monographs, rather than as a treatise covering the subject. It presents, in a very attractive manner, a discussion of some of the more common surgical disorders of childhood which the general practitioner may be called on to treat. In the first part are considered congenital defects and malformations. This is a masterly presentation of the subject. In the chapters on fractures, however, while those of the upper extremities are discussed very thoroughly, it is difficult to understand why *some other common fractures are not mentioned* at all. For instance, fracture of the clavicle surely deserves some discussion among the fractures of children, but it is not mentioned. The book, however, will be of assistance to anyone who wishes to consult a special work on the surgery of childhood.

Lehrbuch der Urologie und der Krankheiten der männlichen Sexualorgane. Von Dr. Alfred Rothschild, Spezialarzt für Urologie in Berlin. Paper. Price, 13.50 marks. Pp. 522, with 162 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

This book presents the merits and demerits frequently observed in the products of German authors; it is cyclopedic rather than concise, scholarly rather than didactic; it enables the reader to know many things, but to do few things; and its therapy is curiously incomplete. Thus tuberculin therapy and the entire subject of vaccine therapy receive each just enough space—three lines—to be named and dismissed without comment. That part of the book devoted to cystoscopy and urethroscopy is modern, and bears the stamp of personal experience.

Medicolegal

Evidence Barred in Nymphomania Case

The Court of Criminal Appeals of Texas holds, on the appeal of Jenkins vs. State (131 S. W. R., 542), a prosecution for rape on a female under the age of consent, that whether the prosecuting witness was laboring under the disease of nymphomania could not be established by the general reputation of *the blood relatives in the ascending line. On the trial she had* testified that she was about 13 years old; that she had voluntarily entered into the act of intercourse with the accused; that she had been doing such things ever since she was nine years of age, and with a great many persons. An examination by physicians showed a full development of parts, etc., but there was a division of opinion as to whether the girl was *a nymphomaniac, as contended by the accused*, or not. Whether, if her mother and blood relations were people of inordinate passions, it would predispose the girl to nymphomania, the court does not decide, but merely that there was no error in refusing to permit the accused to prove the general reputation for chastity of the mother and sisters of the girl, as that could throw no light on the issue before the court, because reputation is one thing, and the facts another.

The court also holds correct an instruction which told the jury that if they believed and found from the preponderance of the evidence in this case that the girl, at the time she testified in the case, was laboring under such a defect of reason from nymphomania or other disease of the mind, and under such derangement of the mind, as to render her incapable of receiving a sound mental impression of the transaction regarding which she testified, or if the jury believed that she had the capacity to receive such mental impression as would render it *impossible for her to retain and impart such impression* correctly, or if she was laboring under such defect of reason *from disease and derangement of mind* as would render it impossible for her to know and understand the nature and obligation of an oath, then in law she would not be a competent witness, and the jury should disregard her testimony altogether.

Furnishing of Water and Ice by Municipalities to Promote Health

The Supreme Court of Georgia says, in Holton vs. City of Camilla (68 S. E. R., 472), that the object in bringing, by means of a waterworks system, water *in pipes from a distance* for use in supplying the needs of a city, is not alone to obtain a sufficient quantity, but also to secure that which is freer from impurities than it is possible to obtain in the city itself. And if, in the hot season of the year, the inhabitants of the city must, for sanitary reasons, relinquish the cool draught from the well because, as has been demonstrated, wells of pure water cannot be maintained in populous communities, surely the city would have the right, were it practicable, to cool the water which it delivers through pipes as *a substitute, and which ofttimes is scarcely drinkable in its* heated condition. If not practicable to cool it in the pipes, and if it be necessary to the welfare, comfort and convenience of the inhabitants that its temperature be lowered before being used for drinking purposes, why cannot the city provide for the delivery of a part of it in a frozen condition, to be used in cooling such part of the balance as is used for drinking purposes? If the city has the right to furnish its inhabitants with water in a liquid form, the court fails to see any reason why it cannot furnish it to them in a frozen condition. *If in the hot climate in which the city of Camilla is* situated ice is necessary for the comfort, health and convenience of its inhabitants, why should not the city be permitted to furnish ice to its inhabitants? And if the furnishing of ice to its inhabitants is conducive generally to their health, comfort and convenience, it is certainly being furnished for a municipal or public purpose. It is a well-known fact that one of the main uses to which ice is put is the cooling of water for drinking purposes; and when it is used for this purpose, if impure, it is as apt to be deleterious to the consumer as any other impure water. Why, then, in the exercise of its police power, may not a city guard against impurities in the ice, as well as the water, used by its inhabitants? Nor does the court see any rational objection on the idea that the city will be engaging in a manufacturing enterprise. The city might perhaps equally as well be said to be manufacturing when by the use of a filtering process it changes impure water into that which is pure.

Proof of Death

The United States Circuit Court of Appeals, Ninth Circuit, says, in Northern Pacific Railway Co. vs. King and others (181 Fed. R. 913), an action brought by the latter parties to recover for the alleged wrongful death of one H. A. King, that the fact of one's death may be proved by circumstantial evidence, provided the facts and circumstances going to show *such death* be *sufficiently* strong. It is also true that under some circumstances the fact of death, as well as of birth, marriage, pedigree and the like, may be proved by hearsay evidence. It has been held by many courts that the death of an individual, though *disconnected with any question of* pedigree, and for whatever purpose sought to be established, may be proved by hearsay, subject to the same restrictions that are applicable to cases where matters of pedigree are involved. But the court knows of no case which holds that it is competent to prove the basic and controverted fact by hearsay testimony, pure and simple, under circumstances like those *presented here*, where the *accident resulting in the* injury of H. A. King had but recently occurred, and whether or not it resulted in his death was susceptible of easy proof. As a matter of course, no inference of his death could be properly drawn merely from his injuries and the amputation of one of his legs, it having been affirmatively shown that he survived such injuries and amputation for a week or ten days.

Employment of Physician by One Member of County Board

The Supreme Court of Oklahoma holds, in Mahr vs. Board of County Commissioners of Pottawatomie County (110 Pac. R. 751), that one member of a board of county commissioners cannot bind the county to pay for the services of a physician in attending on the poor without first having been authorized thereto by the majority of said board whilst in session. The plaintiff set forth that the defendants were indebted to him in the sum of $423 for professional services as a physician and surgeon rendered and performed in giving medical care to the poor and paupers and county charges in the city of Shawnee and vicinity thereof. He further alleged that all and each item of such services were rendered in case of an emergency, that is, in which the patient was in absolute need of medical attention, and at the time of the rendition of such services there was no physician in the employ of the city of Shawnee and vicinity, and that in each the services were performed at the instance of one of the commissioners of said county, said city being within his district. But the court, for the reason first above stated, holds that a demurrer was properly sustained to this cause of action, as it was not alleged that, by any resolution of the board of county commissioners, this one commissioner was authorized to employ the plaintiff to perform the services herein sued for.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago; April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

The President, DR. J. A. WITHERSPOON, Vanderbilt University, Nashville, Tenn., in the Chair

A list of the officers elected at this meeting was published in THE JOURNAL, March 4, 1911, p. 678.

The following amendments to the constitution were adopted:

Amendments

ARTICLE III: SECTION 1.—Every college holding membership in this association shall, on and after Jan. 1, 1912, require for matriculation a completed or unconditioned medical student's certificate, to be granted by a state medical examining and licensing board, or a board empowered by statute to grant such certificates, or a certificate of entrance to the academic department of any state university, or a certificate of entrance to an accredited university or college, providing that said certificate is granted on no less than the following requirements:

(a) A baccalaureate degree from an accredited college or university.

(b) and (c) Unchanged.

(d) and (e) Eliminated.

SECTION 2. This examination must be conducted by or under the authority of the board of medical examiners of the state in which the college is located, or by a duly authorized examiner of the college entrance examination board, or the authorized examiner of an accredited university, state or otherwise, or by an examiner whose certificates are accepted by accredited colleges or universities, or by a method approved by the judicial council of this association.

SECTION 3. The term "accredited" as applied to high schools, academies, colleges and universities means institutions of that type that have been investigated and are accredited by the State University of their respective states, or by the North Central Association of Colleges and Secondary Schools, the Association of Colleges and Preparatory Schools of the Southern States, the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the New England College Entrance Certificate Board, the Association of American Universities and the Association of State Universities, provided that such accrediting is based on Article III, Section 1, of this constitution.

SECTION 4. Colleges in membership in this association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this association, excepting for the fourth year of their course, but no member of this association shall admit a student to advanced standing without first communicating with the college from which such student desires to withdraw, and receive from the dean, secretary or registrar of such college a direct written communication certifying to the applicant's standing. Credit for time or scholarship cannot be given beyond that of the college issuing the credentials, except by mutual agreement between the colleges.

SECTIONS 5, 6 and 7. Unchanged.

SECTION 8. Each student shall be obliged to attend not less than 80 per cent. of the exercises in every annual course of study for which he seeks credit. No student shall be given credit on examination unless he attains a grade of at least 70 per cent. or its equivalent in any other marking system. And no student shall be graduated unless he shall have attained a passing grade in each and all subjects of the required curriculum.

ARTICLE V: SECTION 1.—The entire course of four years shall consist of at least 4,000 hours for each student, and shall be grouped in divisions and subdivided into subjects; each division and subject to be allotted the number of hours as shown in the following schedule:

DIVISION 1.—ANATOMY, 720 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Gross anatomy (including applied anatomy)	510	120	390
(b) Histologic and microscopic anatomy	135	30	105
(c) Embryology	75	30	45

DIVISION 2.—PHYSIOLOGY AND CHEMISTRY, 600 Hours (15 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Inorganic chemistry	180	60	120
(b) Organic chemistry	75	30	45
(c) Physiologic chemistry	104	30	75
(d) Physiology	240	140	100

DIVISION 3.—PATHOLOGY, BACTERIOLOGY AND HYGIENE, 450 Hours (11.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Bacteriology	135	30	105
(b) Hygiene and general dietetics	45	45	...
(c) Pathology	270	60	210

DIVISION 4.—PHARMACOLOGY, MATERIA MEDICA AND THERAPEUTICS, 240 Hours (6 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Pharmacology	105	40	65
(b) Materia medica and pharmacology	80	...	...
(c) Therapeutics	55	...	...

DIVISION 5.—MEDICINE AND MEDICAL SPECIALTIES, 970 Hours (24.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General medicine (including clinical microscopy)	640	..	...
(b) Pediatrics	150	...	...
(c) Nervous and mental diseases	105	...	...
(d) Jurisprudence, ethics and economics	30	...	...
(e) Dermatology and syphilis	45	...	...

DIVISION 6.—SURGERY AND SURGICAL SPECIALTIES, 720 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General surgery	510	...	...
(b) Orthopedic surgery	45	...	...
(c) Genito-urinary diseases	45	...	...
(d) Eye	60	...	...
(e) Ear, nose and throat	60	..	...

DIVISION 7.—OBSTETRICS AND GYNECOLOGY, 300 Hours (7.5 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk
(a) Obstetrics	195	..	..
(b) Gynecology (including some abdominal surgery)	105	...	...

Colleges may reduce the number of hours in any subject not more than 20 per cent., provided that the total number of hours in a division is not reduced. Where the teaching conditions in a college are best subserved, the subject may be, for teaching purposes, transferred from one division to another. When didactic and laboratory hours are specified in any subject laboratory hours may be substituted for didactic hours.

Section 2. Each college in membership in this association shall print in every annual catalog or announcement a table of the total number of hours' work given in said college arranged both by subjects and years.

Section 3. Each college in membership in this association shall print annually a list of its students by classes.

Article VIII: Section 1.—The stated meetings of this association shall occur annually at such place as the association may designate by vote, the time of meeting to be set by the officers and judicial council of the association.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Feb. 22, 1911

The President, Dr. C. B. Longenecker, in the Chair

Dr. T. J. O'Drain read a paper on "Ischemia versus Bier's Passive Hyperemia."

Dr. Robert H. Ivy, read a paper on "Industrial Phosphorus Poisoning."

Breaking Down of Wounds Following Operations

Dr. John J. Gilbride: The breaking down of wounds following operations is caused by infection. Since the application of iodin for sterilizing the skin it is also used by surgeons in the preparation of their hands. One of the best means of preventing suppuration of wounds is to have them dry. The unnecessary use of hemostatic forceps which "chew" and devitalize the tissues should be avoided. Iodin catgut is now much in favor. The use of large-sized suture material is undesirable. Undue tension should not be placed upon the sutures nor should they be placed too closely together. The so-called stitch abscess has occurred, in my experience, most frequently when the cutaneous stitches were left in for a longer period than three or four days. I further believe that not a few wounds, by displacement of dressings, hands of patients, etc., become infected subsequent to operation. It is not possible to prevent all wounds from breaking down, but perhaps, by a little closer application of old facts one may lessen the number of wounds that break down through infection.

DISCUSSION

Dr. John A. McGlinn: All of us who have no fear of telling the truth have trouble with our wounds. Doubtless since the use of iodin, infections have been less. The fewer assistants a man has when operating the less likely is he to have infection. The use of retractors is also a factor in the production of infection. It is much better to have the patient well relaxed and have the incision sufficiently large than to have the sides of the incision forced back with retractors. In dealing with pus cases in the pelvis it is advisable not to have great pressure on the sutures.

Dr. L. Jay Hammond: It has always seemed to me that a potent factor in wound infection is an excessive amount of dressing applied over the abdomen, and for a number of years I have made this dressing rather scant, using only sufficient to cover thoroughly the surface and not to add to body temperature. My feeling regarding the iodin treatment is that it has no advantage over other methods, and is only an additional agent to trust to the hands of our nurses who are already overburdened with technic. For fear of strangulation of tissue, I use as few sutures as possible, and, when the abdominal walls are not too fat, I prefer the use of the through-and-through suture.

Tinea Favosa

Dr. Leonard D. Frescoln: This is a vegetable parasitic infectious disease, generally of the scalp, called contagious by most text-books, but better limited to the term infectious according to modern terminology; not taken from mere surrounding atmosphere of patients and not very readily, as seen in the hospital, from living long with patients. The etiologic factor known is the *Achorion schönleinii* found in 1839, and named by Remak. Many of the mycelia and spores make up the characteristic "scutulum," a sulphur-like cup having the odor of mice, from which the disease may be contracted. Some cases have involvement of parts other than the scalp, as nails, trunks, knees (Fox) and mucous membrane (Kaposi). The affection is liable to be confounded with ringworm. Apart from the characteristic lesions of favus the microscope shows the large mycelium branching and broad spores. The disease is said, by Peyritsch, to take from three to six weeks for its development. It is very refractory to treatment, some cases lasting years; bald spots are a frequent evidence of the disease. In treating we soften the lesions with 5 per cent. carbolized petrolatum. epilation is practiced, sulphur or chrysarobin preparations are used. The best treatment is a long Roentgen-ray exposure repeated. Carbon-dioxid snow has been used with uncertain results. I recently excised a lesion to hasten cure. Favus is one of the deportable diseases, with a fine, in the United States. If a patient is not at once deported he must be under treatment until cured and remain so a month at least. Crocker says: "The disease may be considered cured when after six weeks' discontinuance of treatment there is no localized scaliness." Of course, some cases are very pitiable, but care must be exercised in handling immigrants. Twenty-six of forty-eight patients at our hospital were Russians; average age, 13½ years.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 23

1 *A Review of the Midwife Situation. A. B. Emmons and J. L. Huntington, Boston.
2 *Dislocation of the Hip and Its Reduction by the Method of Bigelow. G. H. Monks, Boston.
3 A Case of Ovarian Pregnancy. E. B. Young and L. J. Rhea, Boston.
4 Symptomatology of Abscess of the Liver. W. C. Quinby, Boston.
5 Disappearance of a Catheter in the Bladder and Its Subsequent Spontaneous Passage. W. E. Wilson, Pawtucket. R. I.

March 2

6 Studies in Intestinal Disturbances in Children. W. E. Fay, Boston.
7 *Bacillary Dysentery. A. I. Kendall, Boston.
8 *Infectious Diarrhea. H. Bowditch, Boston.
9 *Silver Nitrate Irrigations in Treatment of Infectious Diarrhea in Infants. R. M. Smith, Boston.
10 Analysis of 178 Cases of Infectious Diarrhea in Infants. J. H. Young, Newton, Mass.
11 The Flora of Bacillary Dysentery. A. I. Kendall and A. W. Walker, Boston.
12 *Two Methods of Obtaining Human Milk for Hospital Use. F. B. Talbot, Boston.
13 *Diarrhea in Infants Associated with the Gas Bacillus in the Stools. A. I. Kendall and R. M. Smith, Boston.
14 Double Otitis Media. Dehiscence of the Floor of the Cavum Tympani. Streptococcus Meningitis. D. W. Drury, Boston.
15 A Case of Intussusception. B. Vincent, Boston.
16 A Method of Collecting Urine from Female Infants. C. H. Lawrence, Boston.

1. **The Midwife Situation.**—In reviewing the midwife situation abroad and in this country, Emmons and Huntington found two standards of skill and a divided responsibility. The midwife must either be a competent, trained obstetrician, or she must become a subordinate, cooperating with the obstetrician, as does the trained obstetric nurse, relying on his judgment and leaving with him the responsibility of the two lives, before a system harmonious and satisfactory can result. The authors believe it to be the duty and the privilege of the obstetricians to safeguard the mother and child in the dangers of childbirth. The obstetricians are the final authority to set the standard and lead the way to safety. They alone can properly educate the medical profession, the legislators and the public. A resolution of the Women's Municipal League awaits only a formal endorsement to urge the importance of legislation, not for the licensing and regulating of the midwife, but for such minor changes in the laws as will make the present statutes effective in dealing with the midwife in Massachusetts. It has remained for this and other charitable organizations to point out the necessity for bettering obstetric conditions in the state. Let the medical profession, they urge, not only cooperate with these forces for good, but let obstetricians consider well the situation in obstetrics throughout the state to-day; let them look into the future and consider means of furnishing efficient trained service to rich and poor alike.

2. **Dislocation of the Hip.**—The points especially emphasized by Monks are (1) for practical purposes, all regular dislocations of the hip are, in reference to the acetabulum, either posterior or anterior; and (2) whichever the dislocation, an imaginary arrow on the exposed surface of the lower leg pointed toward the flexed knee will, in case the Bigelow method of replacement is to be used, remind the surgeon during the flexion whether to make the knee describe an inward or an outward curve.

7. **Bacillary Dysentery.**—It has been shown that bacteria acting on protein (nitrogenous substances), in the absence of fermentable carbohydrate, form putrefactive products, some of which may be very toxic. The dysenteric flora is essentially putrefactive in character. These products are absorbed in part, at least, from the alimentary canal, paired in the liver and excreted through the kidneys. The patient, therefore, in receiving no food, is being poisoned by the bacterial products elaborated in the intestinal tract, and attempting to detoxicate and excrete these substances in addition to maintaining the normal vital functions of respirations, heart beat and so on. Realizing these conditions, Kendall proposes feeding such patients from the start with carbohydrate. The principle involved is a twofold one: to furnish an easily assimilable and readily fermentable carbohydrate to change the character of the bacterial activity in the alimentary canal from the proteolytic to the fermentative type, and to furnish nourishment to the patient. The patient is first given a dose of castor oil or other cathartic to clean out the intestinal tract thoroughly. All food except sterile water is withheld for from twelve to fifteen hours to facilitate this cleaning out. Lactose, 5 per cent. solution in sterile water, is then fed by mouth for several days, until the acute symptoms abate, or until it becomes apparent that the patient requires some nitrogenous food. Whatever nitrogenous food is selected must be given cautiously, in small amounts, simultaneously with an excess of utilizable carbohydrate to protect it from bacterial attack. The lactose should be fed in rather small amounts, often repeated, to keep up a stream of this sugar in the alimentary canal, otherwise the proteolytes will be able to attack whatever nitrogenous substances may be present in the alimentary canal between the doses of lactose. Dextrose (Kahlbaum's) may be infused, preferably as a 2.5 per cent. solution in physiologic salt solution to bring to normal the dextrose content of the blood and to furnish fluid to the patient. This feeding of lactose is intended to accomplish a twofold purpose: to furnish to the host a readily assimilable food, requiring a minimal expenditure of energy to metabolize it, and to change the character of the metabolism of the dysenteric flora from the proteolytic to the fermentative type. This change in the type of the intestinal flora is particularly desirable to prevent further intoxication of the host and to give him a better chance to combat the poisons already absorbed.

8. **Infectious Diarrhea.**—The plan of treatment outlined by Bowditch is based on a trial in thirty-nine cases of children, from 3 to 16 months of age. They were not taken "*in serium*," but were chosen where some hope of life and chance for study existed. Of these, practically 50 per cent. died (nineteen). The duration of disease on admission varied from one to sixty days (an average of twelve) in the fatal cases; of those who recovered, from one to twenty-eight days (an average of eight days). Treatment was divided into: (1) the initial attack on the specific organisms and their resultant symptoms; (2) treatment of supplementary symptoms and supportive treatment. The former consisted of catharsis, using castor oil, calomel and sodium sulphate, colonic irrigations with normal saline solution, plus lactose or dextrose, adding silver nitrate or tannic acid, if necessary—gastric lavage only when necessary. Temporary abstinence from all nutrition is imperative. This period lasts theoretically until the infection has subsided, temperature has fallen and the nervous irritability of the gastro-intestinal tract has improved. During this time ingestion of water is necessary to keep the fluids of the body and blood as normal as possible. Boiled water amounting to the quantity of food usually ingested is given by mouth. Lime water and alkalies have been added according to the digestion.

Of the thirty-nine children herein reported, all received sterile water for not more than three days (an average of two) in contrast to the usual prolonged starvation. After this short interval they received 5 per cent. lactose. Of the twenty discharged well and the nineteen who died, fourteen and ten, respectively (58 per cent.), received lactose up to 5 per cent. for an average of eight days. Seven of these died during the treatment. The temperature fell in seventeen and remained stationary or increased in seven. The movements diminished in thirteen and increased in eleven. Blood was increased in seventeen and diminished in five. Of those who recovered, an average of 25 ounces of sterile water was well taken, while barely 17 ounces was ingested by those who died. Lactose solution (5 per cent. administered for an average of eight days) was readily taken by all to an average quantity of 36 ounces. Of the remaining fifteen, two died before lactose administration was given. Six received whey (an average of 40 ounces in six days), while the remaining seven were given various foods and subsequently died. Seven of the twenty who recovered received at first dilutions of sterilized fat-free milk strengthened slowly to whole milk; three got whey at first, later straight dilutions of milk; five got buttermilk, and three got straight dilutions of sterilized milk to whole milk. Of the ten fatal cases that continued through the lactose administration, no definite result in regard to food can be stated. The majority of the children succumbed to the too early administration of milk or too rapid change of nourishment. The reason for the too early giving of food was the necessity for some nitrogenous nourishment to sustain life. Toxemia was fought largely symptomatically. The stimulants were mostly given hypodermically. Brandy was seldom used. Strychnin, from 1/250 to 1/500 grain, was given when cardiac failure was imminent. Bowditch says that lactose and dextrose in the irrigations gave no demonstrable therapeutic value, and that dextrose infusions were certainly an improvement.

9. **Treatment of Infectious Diarrhea in Infants.**—During the last season at the Boston Floating Hospital colon irrigations of 3 per cent. silver nitrate were employed in the treatment of infants ill with infectious diarrhea. The technic of the irrigation did not differ essentially from that of ordinary irrigations. Smith says that it is advisable, however, to clean the rectum, and as much of the colon as possible, before using the silver nitrate solution. A cleansing irrigation with sterile water is given and continued until the water comes back clear. Salt solution should not be used for this preliminary cleansing, since the sodium chlorid forms with the silver nitrate an insoluble silver salt which is precipitated and the strength of the silver solution is weakened. When the cleansing has been completed, 1 pint of a 3 per cent. silver nitrate solution is allowed to run into the colon and the tube then withdrawn. Some of the solution will be expelled, but no attempt is made to recover the entire amount used. In adults there is considerable pain after the injection, but none of Smith's patients showed any marked evidence of discomfort.

The treatment was used in thirty-two cases. None of the patients was in any way harmed by the treatment. Three infants showed a rather severe reaction, but it was only temporary in character. In twenty-two of the cases, treatments were given early in the disease. Eighteen of these patients were improved by the procedure, eleven markedly so, and seven slightly. Six patients were given the injection late in the disease; three, or one-half, were benefited. In six cases no report can be made. Smith claims that in a certain number of cases of infectious diarrhea in infants, an early colon injection of 3 per cent. silver nitrate solution apparently hastens the disappearance of blood and pus from the stools and shortens the course of the disease. In some late cases, when blood and pus persist in the movements, the ulcers can be stimulated by silver nitrate injections and the stools cleared.

12. **Two Methods of Obtaining Human Milk for Hospital Use.**—The hospital of the Massachusetts Infant Asylum, which uses the method of most foreign hospitals, has resident wet nurses who are part of the organization of the institution. These women are secured from other charitable institutions, and from the lying-in hospitals. They are not permitted to do any heavy work or scrubbing, but should only dust a certain number of rooms and do their own washing. They are allowed to have as much as they want of a liberal diet, which costs the hospital from 43 to 45 cents a day for each person. The milk of these wet nurses is used in two ways: (a) The milk is drawn with breast pumps for the very weak and delicate babies. It is placed in sterile jars and kept in an icechest until used. (b) The stronger babies are put to the breast. The amount of milk taken is recorded by a trained nurse, who weighs the baby before and after the nursing. The women are paid according to the amount of milk they supply, at the rate of 2 cents an ounce for "drawn breast milk" and 1 cent an ounce for nursed breast milk, up to a limit of $16 a month. The Boston Floating Hospital collects the milk from nursing mothers in the tenement district. Precautions are taken to have the milk drawn in a cleanly manner and put in sterile bottles and then kept at a low temperature. The women are paid at the rate of 60 cents a quart.

13. **Diarrhea in Infants Associated with the Gas Bacillus in Stools.**—In the opinion of the authors there exists a group of diarrhea in infants impossible to differentiate clinically from infectious diarrhea caused by the dysentery bacillus. These cases are associated with the presence of large numbers of gas bacilli in the stools. The bacilli occur in such numbers and in such relations that it seems reasonable to believe that they are the etiologic factor of the diarrhea. This diagnosis, when made, gives the indication for treatment with buttermilk.

Medical Record, New York

February 25

17 Preliminary Report of Cases of Syphilis Treated by Salvarsan. C. H. Chetwood, New York.
18 *A Simple Method for Relief of Certain Forms of Odynphagia. P. T. Hald, Copenhagen, Denmark.
19 *A Case of Aneurysm of the Heart. J. B. Betts, Buffalo, N. Y.
20 Stock Vaccines ir [illegible] Morris, Ill.
21 Gastric Ulcer: [illegible] Peritonitis, Vaccine Thera[illegible] D. C.
22 *Melted Iodoform Ointment in Treatment of Suppurative Bubo and Ischiorectal Abscess. H. A. Royster, Raleigh, N. C
23 *Is Cancer Contagious? G. D. White, Jersey City, N. J.
24 A Case of Multiple Pregnancy with Eclampsia. E. A. Griffin, Brooklyn, N. Y.

March 4

25 Resection of the Posterior Roots of the Spinal Nerves to Relieve Pain, Pain Reflex, Athetosis and Spastic Paralysis—Dana's Operation. R. Abbe, New York.
26 Diagnosis of and the Feeding in Gastric Ulcer. W. G. Morgan, Washington, D. C.
27 Appendicitis and Its Moving Pathology. G. K. Dickinson, Jersey City, N. J.
28 Vaccination in the Philippine Islands. R. Olesen, Manila, P. I.
29 Bilateral Nephrolithiasis; Left Nephrolithotomy. L. B. Bangs, New York.
30 Short Talks with My Students and Others; Being Random Suggestions for the Younger Practitioners. R. H. Dawbarn, New York.

18. **Method for Relief of Odynphagia.**—Some time ago Howell claimed that relief of laryngeal pain may be secured by firm pressure on the ears and mastoid region in swallowing. Hald tried this method in thirty-three cases of inflammatory diseases of the tonsils and their surroundings. In twenty-four cases pain was considerably relieved by pressure against the tragus, or against the upper part of the mastoid. Tragus pressure was most efficient. He explains the process by supposing that it exercises a strong counterirritation of the skin area, whose sensitive nerve supply is in intimate relation to the sensitive nerve supply of the diseased tonsil. He limits the area to the lateral portion of the posterior meatal wall.

19. **Aneurysm of the Heart.**—In Betts' case the aneurysm arose from a gradual occlusion of the coronary artery by atheromatous changes. There was extreme generalized arteriosclerosis, not caused by syphilis. The diagnosis was made post mortem.

22. **Melted Iodoform Ointment in Treatment of Suppurative Bubo.**—The principle of the treatment employed by Royster is that of attempting to promote resolution of the inflamed glands, to secure rapid pointing, if suppuration occurs, and, finally, to evacuate the pus and fill the cavity with melted iodoform ointment. When the inguinal swelling first begins, daily application is made of a salve composed of equal parts of pure ichthyol and the official ointments of iodin, mercury and belladonna. A small portion of this is rubbed in well and another portion spread thickly on a gauze dressing, which is held tightly against the area by a spica bandage. If absorption fails to take place and breaking down ensues, as generally happens, the following procedure is carried out, when the suppuration is at its height. A spot on the softest and most prominent part of the swelling is infiltrated with a 1 per cent. cocain solution and a very small incision made here with a bistoury—an opening just large enough to let out the pus. When the cavity has been emptied by the aid of pressure it is washed out two or three times with hydrogen peroxid, diluted one-half with sterile water, followed by flushing with sterile water alone. For these washings an ordinary glass piston syringe is used. A quantity of 10 per cent. iodoform ointment is now melted (it can conveniently be done in a large spoon over a gas, alcohol or oil flame), sucked up into the same syringe, and injected into the suppuration cavity with some force, so as to completely fill it. Over this is immediately placed a cold bichlorid of mercury gauze compress, which is retained by the spica bandage, as before. The dressing is not disturbed for five days. At the end of this time it is removed and the excess of ointment is squeezed out; if any pus remains a second injection of ointment is made; otherwise the gauze and bandage are reapplied for some days longer. In the majority of cases one treatment suffices to cure. Ischiorectal abscess, while not at all related to bubo, affords an opportunity of applying the method just outlined, thereby saving the patient time and trouble.

23. **Is Cancer Contagious?**—White reports five cases of cancer, four of which terminated fatally, three occurring in one house and two in another; all the patients were blood relations or lived in close contact with one another, as husband and wife. All have been infected within five years.

New York Medical Journal

March 4

31 Treatment of Syphil[illegible]avenous Injections of Salvarsan. A. [illegible]
32 Oily [illegible] S. Pollitzer, New York.
33 *Diet in Heart Disease and Arteriosclerosis. L. F. Bishop, New York.
34 *Are We in Danger of Trachoma? A. Brav, Philadelphia.
35 Forecasts of Medical Practice in the Future. T. D. Crothers, Hartford, Conn.
36 *Operative Technic of Acute Suppurative Appendicitis. W. Bartlett, St. Louis.
37 Acute Amygdalitis. N. Settel, New York.
38 Prolonged Epistaxis Associated with Increased Vascular Tension. H. Hays, New York.
39 Phrenology and Its Founder: The Claims of Franz Joseph Gall on the Homage of Scientific Posterity. J. Knott, Dublin.

33. **Diet in Heart Disease and Arteriosclerosis.**—The importance of proper diet in heart disease is emphasized by Bishop. He says that in acute heart disease, the simplest and best diet to begin with is a milk diet, but that must very soon be supplemented by other simple and nutritious foods. In chronic heart disease the quantity of food should be reduced to the amount necessary for the maintenance of the body, the weight, and strength. The food should be divided into five small meals, the largest meal being taken in the middle of the day. The food should also be as dry as possible. In considering a specific choice of diet in heart disease, he divides the cases sharply into two classes. There are those cases in which, on account of a lesion of the heart of a mechanical nature, the welfare of the patient depends on the maintenance of a healthy heart muscle, able to do an extra amount of work. In these cases the problem is the same as that presented by patients suffering with tuberculosis or any other condition in which

the maintenance of health depends on the maintenance of resistance. In these cases, also, diet must be reasonable, but there is no necessity for careful chemical observation. The second class of cases, and the one which Bishop considers, is that in which the heart trouble is part of a general cardiovascular disease, and is of chemical, or at least toxic, origin.

34. **Trachoma.**—Brav feels that the data with reference to the *contagiousness of trachoma are exaggerated*. He is convinced that trachoma is not so contagious as it has been thought to be, and that it is a curable disease. Only neglected cases terminate in a reduction of vision. In this country, it never leads to total blindness, except, perhaps, among the Indians. Inasmuch as there is no trachoma problem in our country, laws on this subject, he thinks, need not be oppressive. Trachoma is not on the increase, but rather on the decrease. To create fear among the laity to the existence of imminent danger resulting from trachoma, which is purely imaginary, Brav believes, is entirely unscientific and harmful to the best interests of the community.

36. Abstracted in The Journal, Jan. 28, 1911, p. 298.

Lancet-Clinic, Cincinnati

March 4

40 The Time Element in Operations. C. A. L. Reed, Cincinnati.
41 Gonorrhea, the Problem. W. S. Ehrich, Evansville, Ind.
42 Approximation of Widely Separated Wound Margins. J. R. Eastman, Indianapolis.

Journal of the South Carolina Medical Association, Charleston

January

43 The Hyperemic Treatment. G. E. Thompson, Inman.
44 The Anesthetist. J. B. Townsend, Anderson.
45 Operation for Correcting the Deformity of Undeveloped Lower Jaw or Receding Chin. R. S. Cathcart, Charleston.
46 Eye and Ear Troubles that Pertain to General Diseases. L. O. Mauldin, Greenville.
47 The Alkaline Treatment in Typhoid. R. E. Yellott, Lynchburg.

Bulletin of the Johns Hopkins Hospital, Baltimore

February

48 Relation of the Amnion to the Origin of Human Malformation: Necrosis of the Pancreas. Spondylolisthesis. H. Chiari, Strassburg, Germany.
49 Diabetic Acidosis. A. Magnus-Levy, Berlin.
50 Bacteriology of Baltimore City Water. W. W. Ford, Baltimore.
51 *Case of Congenital Deformities: Patent Ductus Botalli; Absence of Left Kidney and Chronic Peripheral Edema. C. R. Kingsley, Baltimore.
52 Transverse Fracture of the Body of the Ischium in 1893; Terminal Displacement in 1902; Diagnosticated in 1909. N. W. Sharpe, St. Louis.
53 Peritonsillar Abscess. M. Warfield, Baltimore.

51. **Congenital Deformities.**—The interesting points in the necropsy findings of Kingsley's case were a very inconspicuous thymus, there being practically no tissue where the gland should be; normal heart valves, but an open ductus Botalli, measuring about 1 millimeter in diameter; an acute diffuse cellular myocarditis; no special hypertrophy of the ventricles; scattered areas of bronchopneumonia in both lungs. The left ureter appeared normal at its entrance into the bladder and as far as followed up to the brim of the pelvis. Here it was lost and no remnant of kidney tissue was found in this area. The left adrenal was close to the diaphragm and appeared normal. The right kidney was very large, about the size of two normal kidneys. There was a single distorted pelvis coming from the anterior median portion of the irregular kidney mass, the long axis being nearly parallel with that of the vertebral column and lying almost completely to the right of the vena cava, which crossed over its mesial surface. The kidney looked in no way abnormal. An acute enteritis throughout the ileum was found. The thyroid was small, pale, and uniform on section. The bone marrow appeared normal. Permission to examine the brain could not be obtained.

Southern Medical Journal, Nashville

February

54 The Gamete Carriers. Their Rôle in the Etiology of Malaria. G. E. Henson, Crescent City, Fla.
55 Malarial Manifestations in the Eye. M. H. Bell, Vicksburg, Miss.
56 Value and Limits of Laboratory Diagnosis. A. E. Thayer, Dallas, Texas.
57 A Summary of Cases of Malaria and of Cases Suspected to be Malaria, Examined in the Past Three Years. J. M. Swan, Watkins, N. Y.
58 *The Radical Cure of Malaria. S. Harris, Mobile, Ala.
59 Underlying Causes of the Existence of Soil Pollutions in Rural Districts. C. W. Stiles.
60 The Quick Macroscopic Typhoid Agglutination Test, Its Application and Advantages. C. C. Bass, New Orleans.
61 What Is Heat Exhaustion? W. H. Rennie, U. S. Navy.
62 *Progress Made in Intestinal Surgery, with a Demonstration of a New Method of Suturing the Bowel. A. E. Benjamin, Minneapolis.

58. This article was published in The Journal, Nov. 26, 1910, p. 1879.

62. This article was also published in the *Lancet-Clinic*, Feb. 11, 1911; abstracted in The Journal, Oct. 1, 1910, p. 1222.

Surgery, Gynecology and Obstetrics, Chicago

February

63 *Abdominal Myomectomy for Myomata of the Uterus. W. J. Mayo, Rochester, Minn.
64 Inflammatory Tumors of the Abdomen Simulating Malignant Disease. H. A. Bruce, Toronto.
65 Injuries to the Kidneys with End-Results. P. M. Pilcher, Brooklyn, N. Y.
66 Primary Multiple Malignancy. C. B. Davis, Chicago.
67 *Large Ovarian Cysts. J. S. Horsley, Richmond, Va.
68 *Functions of the Great Omentum. I. C. Rubin, New York.
69 Primary Sarcoma of the Appendix; Report of a Case. E. O. Jones, Seattle, Wash.
70 *Calculus in the Ureter. R. C. Bryan, Richmond, Va.
71 Technic of the Radical Abdominal Hysterectomy for Uterine Cancer. R. Peterson, Ann Arbor, Mich.
72 *Operative Method for Exstrophy of Bladder. A. Werelius, Chicago.
73 Abdominal Exclusion of the Fundus in Complete Procidentia. J. R. Eastman, Indianapolis.
74 Open Treatment of Fractures. C. G. Levison, San Francisco.
75 An Efficient Inexpensive Enteroclysis Apparatus. W. A. Dewitt, Philadelphia.
76 A Speedometer for Proctoclysis Apparatus. W. S. Sutton, Kansas City, Kan.
77 An Aid to Radiography of the Urinary Organs. D. N. Eisendrath, Chicago.
78 Legal Aspects of Post-Mortem Cesarean Section. C. S. Bacon, Chicago.

63. **Operation of Abdominal Myomectomy.**—Some interesting mortality data are furnished by Mayo in his review of cases of uterine myomata operated on by himself and Charles Mayo during the past ten years. These statistics include all varieties of operations and the various complications, such as cancer, tubal infections, necrosis and degenerations of the tumor, etc. Every patient dying in the hospital, irrespective of the cause of death or the length of time following operation, is counted as dying from the operation. Total number of operations for uterine myomata, 1,244; deaths, 30, or 2.3 per cent.; number of cases of myomata of the uterus which necessitated total abdominal hysterectomy, usually because of malignant degeneration or acute infection, 66; deaths, 2, or 3 per cent.; number of supravaginal hysterectomies, 900; deaths, 23, or 2.5 per cent.; number of abdominal myomectomies, 157; deaths, one, or ⅔ of 1 per cent.; vaginal hysterectomies, 77; deaths, 2, or 2.75 per cent.; vaginal myomectomies, 50; deaths, 2, or 4 per cent.

67 and 70. Abstracted in The Journal, Jan. 14, 1911, pp. 140 and 141.

68. **Functions of the Great Omentum.**—As a result of his studies, Rubin claims that the omentum has no spontaneous motility. The displacements of the omentum may be explained by: (a) intestinal peristalsis; (b) intra-abdominal tension; and (c) the static condition of the stomach and colon and of the small intestine; (d) the anatomic relationship of the omentum to the gall-bladder and spleen. The omentum has no demonstrable "chemotaxis." The amount of intraperitoneal fluid plus the amount of gas contained in the large intestine account for this apparent intelligent retreat of the omentum from virulent infective processes. In addition the suction action of the diaphragm under changed conditions of intra-abdominal tension explains the apparent upward "chemotaxis" of the omentum in inflammatory lesions of the upper abdomen. The omentum has no intelligent and spontaneous protective rôle. Such protection as it apparently displays is simply due to its properties as peritoneum, and not as a superior organ with definite functions. It cannot restore vitality to necrotic organs nor vascular supply to those deprived of their circulation. The end-product of an adhesion between the omentum and a foreign body is the destruction of the foreign body; between the omentum and any other abdominal viscus is scar tissue. The omentum does not invariably repair spontaneously defects in hollow or

investigated in the second case. For certain periods the patient was allowed a somewhat restricted diet, containing gluten bread, supposedly starch-free, but actually, on analysis in the laboratory, yielding 32.5 per cent. starch. For the first ten days the food was not measured accurately enough to allow complete figures of food value to be stated; but from March 21 to April 9, each article was carefully weighed and its value computed, mainly from Atwater's tables, partly from analyses made in the laboratory. Very little restriction, except of carbohydrate, was enjoined during the period of liberal diet, and at all times the patient was allowed to roam about the wards, under surveillance, to prevent secret taking of food or loss of urine. The absolute reduction in sugar output as soon as the patient was put on v. Noorden's gruel was striking, and was in perfect accordance with the claims of v. Noorden and the experiences of other workers. In both cases, however, acetone, which was practically never present during the periods of glycosuria, invariably appeared after administration of the oatmeal gruel.

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solid viscera; it does this imperfectly in man. Experimentally, when the rent is not too large, the omentum seems to occlude it and prevent leakage from the intestine. In perforated appendicitis, for instance, while the omentum is present in a great number of cases at the seat of the perforation, peritonitis, due to leakage, nevertheless frequently occurs.

The usefulness of the omentum in inflammatory lesions of the abdomen depends on (a) its power to form adhesions which isolate and render innocuous toxic products; (b) to its power of absorbing and eliminating toxic products or destroying them by virtue of its phagocytic elements. But when contrasted with the sequelæ, intestinal obstruction, pain, etc., its beneficence is overbalanced. The chief functions of the omentum are those of any other mesentery, namely: (a) fixation of viscera; (b) vascular supply. When the omentum is found adherent to an intra-abdominal tumor the probabilities are that the mass is inflammatory, and not neoplastic. If the tumor is adherent to a neoplasm, the tumor invariably has undergone inflammatory changes. (Ovarian dermoids.) In exploratory gall-bladder operations it is well to remember that an "adhesion" between this viscus and the omentum does not necessarily mean inflammation. The adhesion may be a normal mesentery of the gall-bladder, contributed by the omentum. Care should be exercised, therefore, in the examination of the adhesion before it is unnecessarily separated, and before the gall-bladder is removed. The best method of preventing adhesions between abdominal incision and omentum consists in the application of a continuous peritoneal catgut suture. Areas of the abdominal cavity uncovered by peritoneum lead almost invariably to adhesion formation. The omentum is capable of absorbing large quantities of fluid and particles in suspension. Large particles are attached in a purely mechanical way. Too much should not be expected from grafts of the omentum. A detached piece of omentum rapidly becomes necrotic, and is useless. Only intact portions of the omentum produce serviceable adhesions.

72. **Operative Method for Exstrophy of the Bladder.**—The operation devised by Werelius is done in two stages: The first stage consists of the formation of an artificial bladder (urodenum). The operative field (left abdominal side), after ordinary preparations, is painted with tincture of iodin and protected from the area of exstrophy by placing an adhesive strap obliquely across the lower abdomen and over a towel covered with oiled silk, which is then turned over the exposed bladder, completely excluding it from the operative field. The patient is then tilted over on his right side to allow the urine to flow away from the working area, and also to get the small gut out of the way. An oblique incision is then made in the left inguinal region, much the same as for appendectomy on the opposite side. The sigmoid is delivered through the wound and divided about 7 inches above the rectosigmoidal junction and the proximal end anastomosed to the upper part of the rectum, leaving a future artificial bladder about 6 inches long. The abdomen is closed in the usual manner without drain. In the second stage, a flap of bladder containing the ureters is dissected and all of the bladder mucosa is cut away. Through a median abdominal incision the intestinal pouch is exposed and partly delivered through the wound and clamped with rubber-covered forceps. The clamped gut is opened into the lumen. The bladder flap is then approximated to the intestinal opening and sewed to the edge, through and through with linen. The opposite edge is sewed with a Connell stitch, so that, when finished, the gut somewhat overlaps the bladder flap. If the intestinal tissue is abundant, serosa may be drawn over so as to cover the flap completely. The abdomen is closed, with gauze drain *in situ*.

New York State Journal of Medicine

February

79 Tuberculous Peritonitis. N. Jacobson, New York.
80 Dermatologic Observations of Interest to the General Practitioner. J. M. Winfield, Brooklyn, N. Y.
81 Infant Mortality in Greater New York. A. E. Shipley, Brooklyn, N. Y.
82 v. Mikulicz Disease. W. Lintz, Brooklyn, N. Y.
83 Sacral Suspension of the Uterus. J. VanD. Young, New York.
84 Mistakes in the Use of Obstetrical Forceps. J. M. H. Rowland, Baltimore.
85 The Physician and the Mental Development of the Young. P. W. T. Moxom, Brooklyn, N. Y.
86 Recognition and Treatment of Acute Mastoiditis. G. H. Rockwell, Syracuse, N. Y.
87 The Medical Profession as Related to the Community, State and Nation. T. D. Mills, Middletown, N. Y.
88 International Commission on Control of Tuberculosis Among Domestic Animals. M. H. Reynolds, New York.

American Journal of Medical Sciences, Philadelphia

March

89 *Presence of a Venous Hum in the Epigastrium in Cirrhosis of the Liver. W. S. Thayer, Baltimore.
90 Diagnosis of Duodenal Ulcer. W. F. Cheney, San Francisco.
91 *Traumatic Diabetes in Children. I. A. Abt and S. Strouse, Chicago.
92 *Biot's Breathing. L. A. Conner, New York.
93 Myogenic Doctrine of the Cardiac Activity and Its Relation to *Arrhythmia*. J. H. Musser, Philadelphia.
94 *Interrelations of the Organs of Internal Secretion. R. G. Hoskins, Columbus, Ohio.
95 Acetabular Fracture with Intrapelvic or Central Dislocation of the Femoral Head. W. Fuller, Chicago.
96 *[illegible] Heart. A. S. Warthin, Ann Arbor.
97 [illegible]h Salvarsan in Syphilis. H. Golden- [illegible] New York.

89. **Cirrhosis of the Liver.**—A venous hum, accompanied sometimes by a well-marked thrill, has been detected by Thayer in the epigastrium in some instances of hepatic cirrhosis. He says that the thrill and murmur may be appreciable: (a) directly over the extensive cutaneous varicosities, or (b) in instances where there is little or no external evidence of venous engorgement. In most of the cases in which an epigastric venous hum has been heard in cirrhosis, in the absence of cutaneous varicosities, the sound has been audible best about the umbilicus and along the median line in the epigastrium—in other words, along the course of the round ligament. In a few of these instances it has been found that the incompletely closed umbilical vein has become greatly dilated as a result of increased portal pressure. In others, a large dilated vein has been found in the round ligament running alongside of the obliterated umbilical vessel—doubtless a dilatation of a small para-umbilical vein. Thayer points out that these murmurs should be distinguished from the slight venous hum sometimes heard in the anemic just above and to the right of the umbilicus, over the inferior vena cava—murmurs which may be brought out by pressure in thin individuals. These murmurs are said to disappear in some cases with pressure on one or another femoral vein (Friedreich). A venous hum has been described in Traube's space and in the left side of the epigastrium in the angle between the large liver and spleen in cirrhosis (v. Jacksch, 1899) and in splenic enlargement (Piazza-Martini, 1898), which may arise in a varicose splenic vein. A well-marked thrill and an intense venous hum may be heard in hepatic cirrhosis over a limited area in the epigastric notch, in the immediate neighborhood of the xyphoid cartilage, at a point so far above the lower border of the enlarged liver that it cannot depend on currents in a varicose umbilical or para-umbilical vein. Such murmurs may, in some instances, arise in varicose coronary veins (v. Jacksch), while in others, as those observed by Catti and the author, the seat of origin is probably in anastomoses between the roots of the internal mammary and the inferior deep epigastric vessels, very possibly to the entrance into these latter veins of an enlarged para-umbilical-xyphoid vein of Braume.

91. **Traumatic Diabetes in Children.**—Two cases of diabetes are reported by Abt and Strouse in which the glycosuria first came to light after the patients had suffered injury. The first child sustained injuries to the leg and abdomen in an automobile accident; the second child fell from a second-story window, striking on his head. In addition to the possible traumatic origin of these cases, there is an added interest in that both patients continue robust and in good health in spite of the daily elimination of a considerable quantity of sugar. This is in contrast to the text-book descriptions of cases of diabetes in children, which usually relate that in young individuals, more particularly children, diabetes runs a rapidly unfavorable course. It is also of interest to note the effect of the v. Noorden oatmeal diet on sugar elimination and acid retention. The ordinary clinical study of the first case showed an apparent anomaly in the production of an acidosis by the v. Noorden gruel. This point was especially

investigated in the second case. For certain periods the patient was allowed a somewhat restricted diet, containing gluten bread, supposedly starch-free, but actually, on analysis in the laboratory, yielding 32.5 per cent. starch. For the first ten days the food was not measured accurately enough to allow complete figures of food value to be stated; but from March 21 to April 9, each article was carefully weighed and its value computed, mainly from Atwater's tables, partly from analyses made in the laboratory. Very little restriction, except of carbohydrate, was enjoined during the period of liberal diet, and at all times the patient was allowed to roam about the wards, under surveillance, to prevent secret taking of food or loss of urine. The absolute reduction in sugar output as soon as the patient was put on v. Noorden's gruel was striking, and was in perfect accordance with the claims of v. Noorden and the experiences of other workers. In both cases, however, acetone, which was practically never present during the periods of glycosuria, invariably appeared after administration of the oatmeal gruel.

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different from any other foreign body in its effect on coagulation. Strong conducted a number of experiments noting the coagulation time with rabbit blood, and found that he could secure coagulation within forty-five seconds. He also used various powders, and found that sometimes these delayed clotting rather than hastening it, and sometimes they had no special effect. So, apparently, here was something specific in its action. It did not lose its power when heated dry, but when it was moistened and heated with a very moderate degree of heat, 60 C. for thirty minutes, it became inactive. On that demonstration Strong based his claim of there being a ferment body in this preparation. No clinical data on the use of this substance, which Strong calls "thrombokinase," are available, although it has been used by a number of clinicians.

112. Papilloma of the Larynx.—The following are the most interesting features of the case: It gives the natural progress of papilloma of the larynx beginning in infancy and continuing undisturbed by treatment up to the age of 47 years. The very unusual fungoid appearance of the growth (so far as Carter can discover no case like it has been recorded), and the subsequent history are also of interest, whether the patient develops a speaking voice and whether there is a recurrence of the growth. The latter, Carter believes is unlikely, as the growths were thoroughly removed and the patient has passed that age when there is a tendency to warty developments. The larynx before operation was almost completely blocked by fungoid papillomatous masses, the largest of which, attached to the left side of the larynx, acted like a ball-valve and caused almost complete obstruction on inspiration. The edematous condition of the surrounding tissues gave the impression of an active inflammatory process.

It is also worthy of mention that these extensive growths were all removed endolaryngeally. Carter regards the endolaryngeal operation as the ideal one in these cases, and can scarcely conceive of a case of papilloma of the larynx justifying thyrotomy. In operating, he prefers the snare to any other instrument for the reason that the growth can be removed more accurately, more thoroughly and with far less injury to the surrounding healthy parts. The latter is most important, for it is the common observation of laryngologists that recurrences are more apt to spring from those portions of the larynx that have been injured during the operative procedures than from the bases of the primary growths.

113. Quinsy in an Adult.—The quinsy in Prowse's case was bilateral, the abscesses extending far down the neck, practically enveloping the whole larynx laterally and anteriorly; the characteristic doughy swelling was evident before the section was begun, and there had been no rupture of the abscess into the air-passages. Death had been preceded by violent struggling for air and clutching at the throat, and the post mortem disclosed that death had been due to edema of the glottis, hastened, no doubt, by the exertion of walking, and that an intubation and laryngotomy would probably have saved the patient's life.

Memphis Medical Monthly

January

115 Our Relations Toward the Peritonitides. J. A. Crisler, Memphis.
116 *Plaster of Paris as a Primary Dressing for Fractures. J. W. Barksdale, Vaiden, Miss.
117 *Prevention of Infantile Diarrhea. A. G. Jacobs, Memphis.
118 Importance of Elimination. D. M. Hall, Memphis.
119 Was It an Abscess of the Temporal Lobe? J. R. Nelson, Whiteville, Tenn.

116 and 117. Abstracted in The Journal, Dec. 10, 1910, pp. 2091 and 2092.

Bulletin of the Medical and Chirurgical Faculty of Maryland, Baltimore

March

120 *Management of Children Predisposed to Nervousness. L. F. Barker, Baltimore.

120. Management of Nervous Children.—Barker insists emphatically that in any case nervous children should not be sent to school too early: preferably they should start a year or even several years later than the normal child. And in the schools they should never be pushed ahead too fast; competition is dangerous for the nervous child. The mistaken ambition of parents who desire their children to head the class is often responsible for serious injury to health. Sleeplessness is always a danger signal. In children it is frequently due to indigestion or to mental overstrain; occasionally to premature sexual excitations. If insomnia appears, and especially if it persists, the parents should consult a physician.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

February

121 *An Anatomic Study of the Fasciculus Occipito-Frontalis and the Tapetum. J. H. W. Rhein, Philadelphia.
122 A Case which Exhibited Thermomanesthesia: a Perversion of Thermal Sensation. L. Newmark, San Francisco.
123 A Brain of About One-Half the Average Size from a White Man of Ordinary Weight and Intelligence. B. G. Wilder, Ithaca, N. Y.
124 Dislocation of the Sixth Cervical Vertebra Forward on the Seventh. M. A. Bliss, St. Louis.

121. The Fasciculus Occipito-Frontalis.—In his anatomic researches on the brain Rhein found that there is in the upper levels on the right side a band of degenerated fibers more intense in the posterior wall of the lateral ventricle, which can be traced to hemorrhage in the levels below which destroys the tapetum to a certain extent. This band of degenerated fibers is continuous with a faint line of unstained or poorly stained white matter which at the uppermost levels surrounds the lateral ventricle, leaving a band of well-stained white matter between it and the ventricular wall. Forward and in the outer wall of the ventricle, this band corresponds to the position of the fasciculus occipito-frontalis as described by Marburg's atlas recently published. At a little lower level, this band cannot be traced all around the ventricle but is present still to a marked degree in the posterior wall of the lateral ventricle. These areas of degeneration, Rhein believes, may probably be interpreted as being fibers of the fasciculus occipito-frontalis which have been pushed to the side by the distention of the ventricle. At levels still lower the fasciculus occipito-frontalis is undoubtedly degenerated, and the unstained bundle of fibers can be traced in the corpus callosum as far as the median line, and when the same level on the left side is studied this can be followed into the fasciculus occipito-frontalis on this side. What appears to be degeneration can be traced into the splenium on the right side, but what the fate of these fibers on the opposite side is cannot be determined. Probably, though, they extend into the tapetum of the left side, as in one section the tapetum was degenerated and degenerated fibers could be seen in the splenium. There is little doubt in Rhein's mind that the degeneration of the fasciculus occipito-frontalis can be traced directly to the degenerated tapetum on the right side. That the degeneration in the corpus callosum is continuous with the degeneration in the fasciculus occipito-frontalis seems more than probable. This finding is uniform in a great many sections, and in comparison with sections from another brain recently studied, it appears to be undoubtedly abnormal. These findings support the views of those who claim that the tapetum is a part of a long association bundle connecting the frontal and occipital lobes. Whether the tapetum is made up exclusively of fibers from the fasciculus occipito-frontalis or in part from the corpus callosum cannot be definitely stated from the findings in this case, in spite of the fact, that degenerated fibers could be found in the splenium directly traceable to the original hemorrhagic focus, since the white matter of the occipital and temporal lobes was implicated as well. In Rhein's opinion, it seems probable that there is a long association bundle corresponding in position to the *"faisceau occipito-frontal"* described by Dejerine, of which the tapetum is a part, and which sends some fibers across the knee of the corpus callosum to the fasciculus occipito-frontalis of the opposite side.

Southern California Practitioner, Los Angeles

February

125 Diagnosis of Duodenal Ulcer. E. C. Moore, Los Angeles.
126 Surgical Treatment of Duodenal Ulcer. W. A. Edwards, Los Angeles.
127 Osteofibroma Occupying the Tonsillar Fossa. A. L. Kelsey, Los Angeles.

128 Diseases of the Gall-Bladder and Its Ducts, with Their Treatment. C. P. Thomas, Los Angeles.
129 Rabies and the Public Health. S. P. Black, Los Angeles.
130 Diagnosis of Fractures. B. J. O'Neill, San Diego.

Northwest Medicine, Seattle, Wash.

February

131 Colon Bacillus Infection of the Urinary Tract. C. B. Lyman, Denver.
132 Ocular Manifestations of Arteriosclerosis and Their Diagnostic and Prognostic Significance. C. A. Veasey, Spokane, Wash.
133 Non-Specific Prostatic Hypertrophy. L. W. Hyde, Portland, Ore.
134 What Medicine Has Done and What It Will Do in the Conservation of Human Health. G. W. States, Franklin, Idaho.
135 Direct Blood Transfusion. A. T. R. Cunningham, Spokane, Wash.
136 Present Status of Treatment of Goiter. E. M. Rininger, Seattle, Wash.
137 Common Eye Symptoms and What They Indicate. J. Jones, Tacoma, Wash.
138 A Case of Epiphysitis. R. H. Fisher, Rigbym, Idaho.
139 Moist Dressings in Surgery. J. T. Townley, Milwaukee, Ore.
140 Amebic Dysentery Contracted in the Arctics of Alaska. W. H. Axtell, Bellingham, Wash.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

British Medical Journal, London

February 18

1 *John Hunter and His Museum. E. Owen.
2 *Operations for Calculus in the Male Bladder. W. E. Haslam.
3 *Clinical Symptoms and Treatment of Chronic Subcutaneous Fibrosis. R. Stockman.
4 *Leukocytic Extract in Infective Processes. D. M. Alexander.
5 Electricity in Neurasthenia. J. Metcalfe.
6 Simulat [illegible] Persons of Hysterical or Neurotic
7 *Eucaly [illegible] Foggie.
8 Curativ [illegible] Frambesia. H. Alston.
9 Salvarsan in Three Cases of Syphilis.

1 and 2. Published also in the *Lancet*, February 18.

3. **Chronic Subcutaneous Fibrosis.**—It is held by Stockman that chronic inflammation of the subcutaneous connective tissue is a very common affection. It is secondary to various acute and chronic infections. The implication of the small peripheral nerves in the chronic inflammatory process gives rise to sensations of aching, stiffness, numbness, fatigue, etc. When persons already stout, or who afterward become so, are affected, the fat tends to form larger or smaller masses round the hypertrophied connective tissue. These masses are often very painful on pressure owing to the nerve twigs being in a condition of interstitial neuritis. The fatty masses are deposited mostly in the ordinary situations of fat accumulation. The abdomen, flanks, hips, thighs, shoulders and upper arms are in general the parts most affected, but sometimes fat is also deposited in the face, forearms, hands, legs and feet, either diffusely through the hypertrophied fibrous tissue or in lobules. When there is a large amount of subcutaneous fat the secretion of sweat is interfered with, but in most cases the amount of perspiration is normal. The morbid anatomy is very simple. When excised portions of subcutaneous tissue are examined microscopically, the fibrous tissue, the peripheral nerves and the blood-vessels are found to be in a condition of chronic interstitial inflammation; the fat cells are normal in appearance. In some cases, the fibrous tissue is much denser than in others. The condition is analogous to fibrosis of the lung, liver, kidney or ligaments, and, as, in these cases, is due to chronic local irritation from the toxins of germs or more definite chemical bodies. The most suitable name to apply to the condition, Stockman says, is probably the pathologic one of "chronic subcutaneous fibrosis." He reports five cases.

4. **Leukocytic Extract in Infective Processes.**—Alexander thinks that a new view may be taken of these extracts. They may in themselves be bactericidal and bacteriolytic to some slight degree, and they may contain natural anti-endotoxins. But they seem to act chiefly as leukocytic stimulants, inducing a huge outflow of cells, whose function is to protect the body from infection.

7. **Eucalyptus Oil Poisoning.**—A boy of 6, who had occasionally been in the habit of getting a drop or two of eucalyptus oil on sugar, was given by mistake a teaspoonful. This was about 6 o'clock one evening. About 8 he had his usual light supper, and within two hours thereafter abdominal pain and severe vomiting set in. The vomiting continued without cessation of any length and diarrhea soon became marked. By 11 o'clock the boy became drowsy, and when he was seen about this time by Foggie, he was semi-comatose. He was pale and collapsed, with a small but not very quick pulse. The muscles generally were flaccid. The pupils were medium in size and equal. The conjunctival reflex was not quite abolished. The tendon reflexes were present and were not exaggerated. There was no cough and the breathing was shallow. He could be roused by very vigorous slapping of the face, but each time he looked dazed. Every time he was wakened the nausea and vomiting set in. The vomited matter, which consisted of mucus and watery material, had a strong smell of eucalyptus oil. After two or three hours of external stimulation very much along the lines usually adopted for opium poisoning, the heavy comatose condition seemed to pass off, and the child was allowed to sleep. He slept well, and next morning, beyond being a little tired, was quite himself again. The breath had a smell of eucalyptus oil for three days. There was never any irritation of the urinary tract. In brief, the poison showed itself by gastro-intestinal irritation and cerebral paresis.

Lancet, London

February 18

10 *John Hunter and His Museum. E. Owen.
11 *Operations for Calculus in the Male Bladder. W. F. Haslam.
12 The Sphygmomanometer and the Sphygmograph. C. O. Hawthorne.
13 Eye-Strain and General Health. J. Hinshelwood.
14 Diffuse Latent Labyrinthitis: Its Dangers in the Radical Mastoid Operation. J. Harper
15 Present Position of the Roentgen-Ray Treatment of Ringworm. S. E. Dore.

10. Also published in the *British Medical Journal*, February 18, and the *Medical Press and Circular*, February 15.

11. Also published in the *British Medical Journal*, February 18.

Medical Press and Circular, London

February 15

16 Angina in Tuberculin Treatment. R. Kramer.
17 *John Hunter and His Museum. E. Owen.
18 The Medical Examination of Employees. H. G. Langwill.
19 Suppression of Quacks and Quackery. D. Walsh.
20 New Points in Urine Analysis. J. B. Smith.

17. Also published in the *British Medical Journal*, February 18, and the *Lancet*, February 18, 1911.

Clinical Journal, London

February 15

21 Syphilis in Consulting Practice. E. M. Corner.
22 Diagnosis in Diseases of the Rectum and Anus. J. P. L. Mummery.
23 A Retrospect of Dermatology. E. G. Little.

Glasgow Medical Journal

February

24 Position of Laryngology and Rhinology in Medicine. R. Fullerton.
25 *Hematoporphyrinuria Not Due to Drugs. T. K. Monro and H. H. Borland.
26 Recent Advances in Hematology. W. K. Hunter.
27 *Cases Resembling Atrophy of the Optic Nerves which Recovered Under Treatment. L. Buchanan.

25. **Hematoporphyrinuria Not Due to Drugs.**—The patient, an unmarried woman, aged 27, housekeeper by occupation, came under the observation of Munro and Borland on account of symptoms resembling those of a mild type of diabetes. One week after a very severe chilling received while sea bathing, she observed the "bright magenta" tint of the urine. Her general condition was not satisfactory; she frequently vomited and ever since the chill she had been compelled to rise several times each night to micturate. The depth of the color varied. After a large dose of salts, the urine might be less dark, and occasionally seemed to clear for two or three days, but it invariably resumed its reddish color. She suffered a good deal from thirst and dryness of the mouth, and recently lost weight somewhat, and has been troubled with boils of the axillæ. Two of four specimens of urine examined contained sugar.

27. Cases Resembling Atrophy of the Optic Nerves.—During the past six or eight years, Buchanan has seen a considerable number of patients who presented many symptoms of atrophy of the optic nerves, but who have, fortunately, recovered the visual power fully both as regards central and peripheral vision. All the patients have been males between 30 and 50 years of age, and all have been steady, healthy looking men, working in responsible positions. None of the patients exhibited the signs or symptoms of toxic amblyopia; none was addicted to the overuse of either alcohol or tobacco; and none complained of, or exhibited evidences of either digestive derangement, kidney disease, or syphilis. In each case the complaint was of slowly increasing defect of vision both for near and for distant work, without any head pain or other evidence to lead to a definite cause. There can be no doubt that the diminution of vision must have been of recent origin in several. The symptoms have been diminution of central vision—both form and, less markedly, color—and peripheral contraction of the visual field, generally symmetrical. The optic nerves presented the appearance of early atrophy, pallor and sharp outline, without diminution of the caliber of the central vessels. In none of the patients was there any evidence of nervous disorder, and the subsequent history of such of the patients as Buchanan has been able to watch for one, two, three or more years has proved that the disease was not due to advancing sclerosis of brain or spinal cord. Examination of the urine showed that there was no disease of the kidneys, and careful inquiry failed to show any point from which toxic influences could start. The treatment in all cases has been purely medicinal—either tincture of nux vomica or strychnin, combined with iodid of potassium, in doses which were moderate at first, but later increased to full. In general, no benefit was experienced until a month or two had elapsed, and then it was slow but steady for about a year. Treatment was kept up until the visual acuity and the field of vision ceased to improve. In general, no improvement or alteration of the appearance of the optic nerve was seen, the size, outline and hue remaining much as at first. No diminution of caliber of the vessels was seen in any case.

British Journal of Children's Diseases, London

February

28 Four Cases of Hereditary Syphilis Treated by Salvarsan. J. H. Sequeira.
29 Pyloric Stenosis in Infancy. Indications for Operative Treatment. N. P. Marsh and K. W. Monsarrat.
30 Genesis of Hysterical States in Childhood and Their Relation to Fears and Obsessions. T. A. Williams, Washington, D. C.
31 *Subcutaneous Emphysema in a New-Born Infant. H. Wilkins.

31. Subcutaneous Emphysema in a New-Born Infant.—Wilkins reports the case of a primipara, aged 33, who, after a prolonged labor in which delivery was affected by axis-traction forceps, gave birth to a male child on Sept. 22, 1910. Although the heart was working well, artificial respiration had to be employed for about twenty minutes as the infant at first refused to breathe, and a large quantity of liquor amnii was expressed from the mouth and nose. The following day acute edema developed over the head, thorax and scrotum. The bowels and urine were normal. On September 26, the child, which had been crying lustily for the last twenty-four hours, suddenly became silent. The edema was then being rapidly replaced by a subcutaneous emphysema over the front and back of the head and thorax. The child could swallow well, but had complete aphonia. The breathing was slightly stridulous. There was no cough. Hot fomentations were applied to the neck, the nostril and nasopharynx were sprayed with normal saline solution, and 3 ♏ doses of wine of ipecacuanha were given every two hours. At midnight the emphysema had increased, and there was considerable dyspnea. Râles and rhonchi were heard over both lungs, the respirations were 48, and the pulse was feeble. The infant was listless and showed no desire for food. Hot fomentations were then applied to the chest and back and 20 ♏ of brandy were given every hour, together with wine of ipecacuanha and syrup of tolu and squills. The following day, September 29, the child was better generally, and took its food well. The emphysema was less on October 1, the child could cry loudly and the emphysema has almost gone. Subsequent recovery was uneventful.

Dublin Journal of Medical Sciences

February

32 Solid Solutions and Crystalline Liquids. W. G. Smith.
33 A Trip to India During the Plague Season. R. W. H. Jackson.
34 *A Case of Thrombosis of the Superior Mesenteric Vein. J. Burgess.

34. Thrombosis of the Superior Mesenteric Vein.—In addition to its rarity the interesting points in Burgess' case are: (1) the vagueness and mildness of the early symptoms; (2) the superimposition of a second group which completely masked the preceding; (3) the rapid course to its fatal termination in a few days from a condition of health. When first seen the man seemed in no way ill. The previous day he had suffered from diarrhea with griping pains in the abdomen. The former had ceased, but the pains had not altogether disappeared. He was a stout, florid man, aged 65. A year previously he had suffered from a similar attack, which had yielded to simple remedies. Burgess prescribed a carminative for him and saw no cause to apprehend any further trouble. Late in the evening, the pain, although not severe, was continuous, and he had passed no motion or flatus during the day; he had retched bile (sic) three times. At this time temperature was normal, pulse 112, very high tension, heart sounds were distinct; there was no murmur present. The pain was referred to the left hypochondrium. There was no tympanites, and, although suffering, he made light of his condition. The urine was high-colored, but contained neither albumin nor sugar. A symptom which puzzled Burgess was a hyperesthesia of the rectum. The next day the pain was less, otherwise the man was no better. Temperature was subnormal, and pulse was 120, wiry in character. There had been one attack of vomiting in the early morning. No motion of flatus had passed. There was absolutely no rigidity, tympanites, or pain on deep pressure of the abdomen. The symptoms present were the continuous pain (by no means severe), the quick pulse and the rectal tenderness. The vomiting occurred on such few occasions that Burgess does not feel justified in giving it prominence. Repeated turpentine enemas, opium and hot fomentations failed to give relief. Three days later, temperature was normal, pulse 120, respirations 24. The patient was semicomatose; he could be aroused to answer questions, but his replies were erratic. There was no paralysis; the pupils acted normally. There was no vomiting. The bowels had acted after an enema had been given. There was absence of rigidity of the abdominal muscles. No complaint now of pain. A blood-count was made with negative results as to leukocytosis. Like negative results attended a lumbar puncture. The urine, except showing a slight trace of bile, was normal. On the following day, a change for the better occurred, but temperature was 101 and pulse 120. Then the man became deeply comatose; his face was suffused, and the pupils were equally dilated. Breathing was stertorous, without any Cheyne-Stokes character. He was passing urine involuntarily, and his temperature was 103 F. He was restless, rolling from side to side, perspiring freely; and at times trying to get out of bed. There was no paralysis of any muscle group. The pulmonary signs were loud rhonchi over both lungs. The abdomen was very slightly, if at all, distended. The liver dulness was normal in position, there was no enlargement of the spleen; but, being a fat subject, a satisfactory examination was difficult. There was no rigidity of the muscles. The coma deepened, and the man died the following morning. At the necropsy the liver showed a marked grade of atrophic cirrhosis, the typical hob-nail, alcoholic variety, with thrombosis of the superior mesenteric vein, as high up as the junction with the splenic; two loops of small intestine were ecchymosed, partly gangrenous, were adherent to each other and to the mesentery of the sigmoid; there was no perforation of the bowel, and there were about 150 c.c. of free fluid in the peritoneum. Other findings, including the head, were negative.

Annales de l' Institut Pasteur, Paris

January, XXIV, No. 1, pp. 1-96

35 Experimental Research or [illegible], Nicolle.
36 Globulins in Human Bloo [illegible]
37 Flies Reared in Aseptic [illegible] la connaissance du rôle des microbes dans les voies digestives.) E. Wollman.
38 Action of Intrapleural Injection of Mellin's Food on Course of Fowl Cholera in Rabbits. M. Margoulies.

Annales des Maladies des Org. Génito-urinaires, Paris

January 1, XXIX, No. 1, pp. 1-96

39 Anatomy and Pathology of Tissues Adjoining the Prostate. (Aponévroses et espaces périprostatiques. Suppurations périprostatiques.) Averseng and Dieulafé.

January 15, No. 2, pp. 97-192

40 *Operations on the Kidney and Pregnancy Later. (Operations sur le rein et la grossesse.) Hartmann and Pousson.
41 *Reflex Calculous Anuria. H. Eliot.
42 *Aspiration Treatment of Chronic Urethritis. Bronner.
43 Anuria from Concrement in Single Kidney Cured by Catheterization of Ureter. (Anurie calculeuse dans un rein unique traitée et guérie par le cathéterisme urétéral.) André.

40. **Operations on the Kidney and Pregnancy Later.**—Hartmann reports normal pregnancy in eight women in whom a kidney had been incised or removed a year or more before. He has compiled sixteen other cases of the kind, and adding these to eighty-nine already published brings to 113 the number of cases on record in which an operation on the kidney was followed by pregnancy. In none could any influence be detected on the pregnancy from the fact of the preceding nephrotomy or nephrectomy. In thirty-five cases the operation was done during pregnancy, so that the latter is no contraindication for nephrectomy. He concludes from the data presented that marriage may be authorized in such cases, even if the operation had been done for renal tuberculosis, if the urine is sterile, as determined preferably by inoculation of animals. Pousson deduces similar conclusions from sixty-six cases he has compiled except that he insists on a careful study of the general health before authorizing marriage after nephrectomy, especially the functioning of the cardiovascular apparatus and liver and the anatomic and functional condition of the remaining kidney. Even with profound changes in the remaining kidney, with purulent urine, he has known nephrectomized patients to bear healthy children; but it would be taking too many chances to authorize marriage in such a case. In twenty-nine out of thirty-two patients in whom the nephrectomy had been done for tuberculosis, the pregnancy developed apparently normally, as also in nine of ten women operated on for lithiasis, and in all of the thirteen women in whom the operation had been for a suppurative process in the kidney.

41. **Reflex Anuria.**—Eliot remarks that a pathologic kidney is especially susceptible to reflex influences, and particularly organs in which there are concrements. He analyzes nineteen cases on record and reports one from his own experience. In the latter, the obstruction of the left ureter by a concrement induced total anuria. The concrement was dislodged and expelled by the simple expedient of distending the bladder, when the anuria at once subsided. Py Suner has demonstrated an antitoxic power in the kidney enabling it normally to neutralize toxic substances circulating in the blood. He has further demonstrated that uremic blood has an inhibiting action on the secretion of urine. When suffering from the presence of concrements, the antitoxic power naturally is enfeebled, while the uremic intoxication although possibly still latent may aid in inducing anuria.

42. **Aspiration in Treatment of Chronic Urethritis.**—Bronner introduces a perforated sound connected with a water jet vacuum pump and manometer, insuring a constant aspiration inside the urethra, maintained for ten or fifteen minutes at a time. The urethra is thus cleansed from all secretions and débris while the aspiration acts as a kind of massage of the walls and induces a healing local hyperemia. The results have been satisfactory, he reports, in over a dozen old chronic cases, and he thinks that the method deserves a wider trial.

Annales de Médecine et Chirurgie Infantiles, Paris

January 1, XV, No. 1, pp. 1-36

44 *Curable Forms of Acute Tuberculosis in Children. E. C. Aviragnet and L. Tixier.
45 Recovery After Operative Treatment of Cerebral Abscess Seven Months After Trauma. H. Triboulet and M. Savariaud.
46 *Peritoneal Complications of Scarlet Fever. A. Touraine and H. Fenestre.

January 18, No. 2, pp. 37-72

47 General Principles for Examination of a Sick Child. E. Périer and E. Gaujoux. Commenced in No. 1.

44. **Curable Forms of Acute Tuberculosis in Children.**—Aviragnet and Tixier declare that the discovery of tuberculous tracheobronchial glands is important both for diagnosis, prognosis and prophylaxis. With acute symptoms, this discovery clinches the diagnosis and after their subsidence shows persistence of a dangerous focus, while it often clears up the diagnosis in latent tuberculosis. All children with swollen glands in the mediastinum should be regarded and treated as tuberculosis suspects, and should be guarded with special care against whooping-cough and measles which seem to be particularly disastrous for the general evolution of tuberculosis. These infections seem to display a special predilection for the lymphatic system and for the glands in particular. If the tuberculosis in an old tuberculous patient does not flare up anew after these infections or influenza, this may be accepted as a sign that the process has definitely healed and that the patient need no longer be classed as tuberculous.

46. **Peritoneal Complications of Scarlet Fever.**—The prognosis of peritonitis seems to be favorable when it is a scarlet fever complication. In a case described by Touraine and Fenestre, a boy of 14 developed scarlet fever during convalescence after an operation for appendicitis and scarlatinal acute peritonitis developed, but all disturbances subsided as the exanthem disappeared. They analyze a few similar cases on record in which an exanthem seemed to have developed on the peritoneum and disappeared with the superficial eruption under medical measures only. This peritoneal syndrome differs completely from the secondary peritonitis which may develop a week or weeks later, and which has quite a different prognosis.

Archives des Maladies de l'App. Digestif, Paris

January, V, No. 1, pp. 1-48

48 Peritonitis from Perforation in Tuberculosis of Large Intestine. C. Roubier and R. Crémieu.
49 Malt and Curdled Milk in Infant Feeding. (A propos de l'emploi combiné de la bouillie de malt et du lait caillé dans les troubles digestifs du premier age.) E. Terrien.
50 *Operative Treatment of Typhoid Perforation. E. Giordano.
51 *Lavage and Massage-Lavage of the Colon. J. Baumann.

50. **Operative Treatment of Typhoid Perforation.**—Giordano says that he has been able to save only about half of the patients operated on for this condition, but that they would all have inevitably succumbed if he had not operated, and he advises prompt surgical treatment and close supervision afterward in every case of peritoneal complication of typhoid, occlusion or perforation. He adds that he will not say that no one dies now from peritonitis, since Murphy introduced proctoclysis, but he will assert that not so many die from it. A typical case of typhoid perforation is reported in detail.

51. **Massage-Lavage of the Colon.**—Baumann makes a rectal injection of about a pint of fluid, which is ejected at once. This is followed by a second injection of about a quart. The patient then reclines in the dorsal decubitus and the physician, at his left, massages the fluid up into the colon and spreads it around with gentle manipulations. After massaging against the normal current, he massages then with it, the superficial effleurage toward the anus starting the bowel content in its natural course and regulating peristalsis. This procedure should not be often repeated or the bowel may become accustomed to it, and it should always be done very gently, never hurting the patient.

Archives de Médecine des Enfants, Paris

January, XIV, No. 1, pp. 1-80

52 *Differential Diagnosis of Cerebrospinal Meningitis and Epidemic Poliomyelitis from Spastic Paralysis and Encephalitis. A. Moussous.
53 *Koplik's Spots. (Les taches de Koplik.) M. de Biehler.
54 *Perivascular Localization of Intestinal Tuberculosis in Infants. M. Péhu.
55 *Serologic Differential Diagnosis of Whooping-Cough. (Diagnostic de la coqueluche fruste par la réaction de Bordet-Gengou.) A. Delcourt.

February, No. 2, pp. 81-160

56 *Eczema in Infants. C. Rocaz.
57 Lactose in Infant Feeding. M. Péhu and C. Porcher.
58 *Infantile Scorbutus. E. Lust.
59 *Scarlet Fever in a Nursing Mother. B. Delmas.
60 *The Elbow Sign of Scarlet Fever. C. Pastia.

52. **Differentiation of Epidemic Poliomyelitis and Meningitis.**—Moussous reviews the difficulties encountered in distinguishing between cerebrospinal meningitis, epidemic paralysis, infantile paralysis and acute encephalitis, stating that only the

newer differential methods allow correct differentiation, examination of the cerebrospinal fluid, etc. The lack of these in the past has led to much confusion. He insists that the sequels of cerebrospinal meningitis should be studied anew on the basis of the most modern methods, as he is convinced that many evils have been attributed to it for which it is not responsible—this mistake being the natural result of its having been confounded with other diseases.

53. **Koplik's Spots.**—Biehler has examined 947 measles patients for the Koplik spots and extols their diagnostic importance in permitting recognition of the disease before any other signs become apparent. They were found the day before the eruption in 864 cases, two days before in forty-two and up to ten days before in one case.

54. **Perivascular Localization of Intestinal Tuberculosis.**—Péhu has been studying for years the localization of tuberculous lesions in the intestine and states that they always are found close to the blood-vessels. This proves, he is convinced, that these lesions are of blood-borne origin and that the tubercle bacilli must have gained access to the body by inhalation, finding their way then from the air passages into the blood and settling at points of lessened resistance. He adds that the rarity of primary intestinal lesions is another argument in favor of this view, and also the fact that notwithstanding the general practice of pasteurization, boiling or otherwise sterilizing the milk, tuberculosis has never been so frequent nor so deadly in young children as at present. The infant consultations and sterilized milk depots are only an indirect means of prophylaxis, as Comby has recently pointed out; they are useful mainly in detecting latent or masked tuberculosis in the family and thus permitting proper measures to prevent infection of the infant by inhalation.

55. **Serologic Diagnosis of Whooping-Cough.**—Delcourt extols the advantages of the complement-fixation test in revealing latent or masked cases of whooping-cough in children and adults. Epidemics are kept up by these unsuspected cases, and their discovery is naturally of great importance for prophylaxis.

56. See abstract in THE JOURNAL, Dec. 10, 1910, p. 2099.

58. **Infantile Scorbutus.**—Lust remarks that he had encountered only seventeen cases of infantile scorbutus during eight years of practice when six came under observation in the course of three months. The cases were all in well-to-do families.

59. **Scarlet Fever in Nursing Mothers.**—Delmas' patient developed typical scarlet fever while nursing her month-old babe. The disease ran the usual course without complications and the infant continued to nurse and thrive without contracting the disease. Scarlet fever is rare in infants less than a year old, and it is possible, he thinks, that the mother's milk confers a passive immunity on the child.

60. **The Elbow Sign of Scarlet Fever.**—Pastia gives two illustrations of the stripe or stripes across the bend of the elbow to which he has called attention as an early sign of scarlet fever. The linear eruption is first pink, then dark red or dregs of wine color, or like an ecchymosis, and it leaves a pigmented stripe for a time after recovery.

Bulletin de l'Académie de Médecine, Paris

January 31, LXXV, No. 3, pp. 113-154

61 *Present Status of Cholera. (L'extension du choléra pendant l'année 1910 et le rôle de l'émigration.) A. Chantemesse.
62 Sterilization and Desiccation of Medicinal Plants. E. Bourquelot.
63 Vaccination Against Typhoid. E. Delorme and A. Netter.

61. **Cholera During 1910.**—Chantemesse regards emigration as the most important factor in the spread of cholera nowadays. Recent experiences have shown that infection was spread by individuals who had left the endemic focus twenty-five or thirty days before, and their goods had been disinfected several times, and they themselves inspected by physicians at two or three different times in the interval. Thus all the provisions of the present maritime sanitary police had been fulfilled to the letter, and yet cholera developed among them. Epidemics and poverty are driving people to emigrate, and the poverty pilgrimages are as dangerous to the health of the world as the religious pilgrimages which have so long been the concern of the public health authorities, while the present international five-day supervision and other regulations are proving inadequate, he declares, to cope with present conditions.

Lyon Chirurgical, Lyons

February, V. No. 2, pp. 109-208

64 *Adomino-Perineal Technic for Removal of Cancer of Uterus and Rectum in Women. (De l'ablation en un seul bloc de la masse recto-utéro-annexielle et du tissu cellulaire périphérique comme méthode opératoire dans le cancer du rectum chez la femme.) Albertin.
65 *Idem. (De l'amputation abdomino-périnéale du rectum, avec hystérectomie concomitante.) Goullioud.
66 *Abdominal Hysterectomy in Treatment of Cancer of Uterus, Rectum and Colon. L. Tixier.
67 *Sigmoiditis and Cancer. X. Delore and L. Lambert.

64. **Cancer of the Uterus and Rectum.**—Albertin advises removing the uterus with the cancer mass in the rectum, all in one piece. He first opens the abdomen and detaches the whole mass, preserving in the pelvis the ureters and the bladder. The abdomen is then sutured and the cancer mass and the adherent genitals are removed through the perineal incision. This technic is for the cases in which partial resection is inadequate and an iliac anus is necessary.

65. **Id.**—Goullioud has operated in five cases of rectal cancer in women by amputating the rectum with concomitant hysterectomy. Two women survived for fifteen and sixteen months and the others are in good health after two and four years to date.

66. **Id.**—Tixier advocates preliminary abdominal hysterectomy which, he thinks, reduces the gravity of the operation. He describes two cases in which this technic was applied on women aged 33 and 58 and both are in good health at present, respectively six and nearly four years later.

67. **Sigmoiditis and Cancer.**—Delore and Lambert report three cases of apparent simple sigmoiditis in which operation showed a malignant tendency or a tuberculous stricture. The patients were a woman of 48 and two men, 60 and 69 years old. None survived the peritonitis for which the operation was done. Histologic examination alone permits the differentiation in dubious cases when there are suppurative complications. In one case there had been symptoms for nearly two years, in another for one year and in the third the syndrome of peritonitis and occlusion developed abruptly.

Lyon Médical, Lyons

January 29, CXVI, No. 5, pp. 133-212

68 Biting the Nails Cured by Device Covering the Teeth. (A propos d'un cas invétéré d'onycophagie.) A. Pont.

Obstétrique, Paris

January, IV, N. S., No. 1, pp. 1-120

69 Evolution of Obstetrics in France. P. Bar.
70 *Classic and Modified Cesarean Section. B. J. Kouwer.
71 *Momburg-Belt Constriction for Obstetric Hemostasis. P. Guéniot.
72 Congenital Absence of Peroneus Muscle. L Dieulafé.

70. **Cesarean Section.**—Kouwer states that in Holland obstetricians still prefer the classic technic and his own experience confirms its advantages. It has its drawbacks, but he is convinced that not one is suppressed by the extraperitoneal, suprasymphyseal technic while the latter exposes the woman to graver dangers than the classic method. He has done Cesarean section in sixty cases among 18,200 parturients, and he reviews this experience in detail, tabulating the various groups for comparison. The mortality for which he considers the operation responsible was only 1.72 per cent. although not all the patients were free from suspicion of infection. The chance of infection is increased by the longer duration of labor.

71. **Momburg-Belt Constriction to Arrest Obstetric Hemorrhage.**—Guéniot reviews eighteen articles that have been published on this subject and his own experience. In the majority of the cases the hemorrhage was arrested at once. The method produces disturbances in the circulation and arterial pressure but if the cardiovascular system is in good condition, he says, no harm results. It is better to refrain from this method in case of heart disease or arteriosclerosis, especially in surgical cases, but in obstetrics the method may prove a life-saving measure, especially in country practice and even

in well-equipped institutions. Some recommend that the Momburg tubing should be carried in every obstetrician's bag. The rubber tubing preferred is about the size of a finger, but ordinary gas tubing or the tube from a fountain syringe may be used. The technic was illustrated in THE JOURNAL, Oct. 30, 1909, p. 1519.

Presse Médicale, Paris

February 4, XIX, No. 10, pp. 89-96

73 Classification of Ptosis of Liver. D. Chilaiditi.
74 Modified Cystoscopy. (Cystoscope pour les sondes urétérales à large diamètre.) E. Garceau.

February 8, No. 11, pp. 97-104

75 Arguments in Favor of Vaccination Against Typhoid. L. Landouzy.

Revue de Médecine, Paris

January, XXXI, No. 1, pp. 1-80

76 *Protracted Fever in Certain Infectious Diseases. H. Bernheim.
77 Metabolism of Ammonia Compounds. I. (Contribution à l'étude du metabolisme des composés ammoniacaux. Toxicité et élimination au cours du jeûne.) H. Labbé.
78 *Hemolytic Jaundice with Occasional Hemoglobinuria. A. A. H. van den Bergh.

76. **Protracted Fever in Infectious Diseases.**—Bernheim called attention in 1876 to cases in which the fever of an infectious disease persisted after subsidence of all other symptoms and, although apparently doing no harm, yet the temperature kept above normal for weeks, months or even years. The fever was generally noted in the evening, the temperature being normal the rest of the day. He has encountered the phenomenon with typhoid and paratyphoid. influenza, acute articular rheumatism, erysipelas, catarrhal pneumonia and pleurisy. The disease does not run itself out like the eruptive fevers and fibrinous pneumonia, but the fever-inducing microbes or their toxins evidently linger in the organism. The trouble is rather a tendency to relapses and recurrences than a steady febrile condition, as he shows by thirteen case-histories reported in detail. In one of bronchopneumonia all other symptoms had subsided by the forty-fifth day, but fever persisted to the eightieth day. In a case of right pleurisy all symptoms had disappeared by the twenty-seventh day, but the fever was evident until the one hundred and third day. The influence of influenza was evident in a few of the cases.

78. **Hemolytic Jaundice with Hemoglobinuric Crises.**—The patient in the case reported was a man of 47 who since 1899 has had recurring jaundice with occasional attacks of hemoglobinuria. Each attack is accompanied by more or less anemia, oppression in the cardiac region and pain in the hypogastrium, some of these symptoms persisting between the attacks to some extent. The blood findings are those of secondary anemia. The trouble seems to be an exceptional fragility of the man's blood-corpuscles in the presence of carbon dioxid at body temperature. This could be shown *in vitro.*

Archiv für Gynäkologie, Berlin

XCIII, No. 1, pp. 1-188. Last indexed January 28, p. 309

79 Causes and Importance of Phagocytosis in the Lochia. T. Heynemann.
80 Development of Placenta Prævia. R. Jolly.
81 Hemolysis in Relation to Jaundice in New-Born Infants. ...hung zum Icterus neonatorum.) B.
82 (Die interstitielle Tubargravidität.)
83 Atresia and Torsion of One Fallopian Tube. E. von Graff.
84 *Treatment of Eclampsia. H. Heinze.

84. **Treatment of Eclampsia.**—Heinze's method is: (1) Rapid artificial delivery without the cooperation of uterine contractions; vaginal hysterectomy or abdominal Cesarean section if cervix and os are not dilated; forceps and version if sufficiently dilated; (2) curetting the uterus if eclampsia persists after delivery, even if the placenta has apparently been removed; (3) decapsulation of the kidneys if the eclampsia still persists and there are signs of serious injury of the kidneys; (4) general measures, including venesection, proctoclysis, the Jaquet pack, diuretics, heart stimulants, artificial respiration and inhalation of oxygen. He gives the case-histories of three very severe cases in which treatment on these principles proved successful. In a fourth case this entire battery had not been brought to bear and the patient succumbed, which he thinks might have been prevented with a little more energetic treatment. Hall, Tatzke and Fellner have reported cases in which puerperal psychosis or eclampsia subsided after curetting.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 3, pp. 303-421. Last indexed February 18, p. 545

85 Remarkable Case of Bronchiectasis. A. Bauer.
86 *Pseudo-Tuberculin Reaction. (Ueber Injectio vacua bei Tuberkulösen.) K. Weihrauch.
87 *Serodiagnosis of Pulmonary Tuberculosis. O. Roepke.
88 Estimation of Earning Capacity of the Tuberculous. (Beurteilung der Erwerbsfähigkeit bei der chronischen Lungentuberkulose.) T. C. Curschmann.
89 Tubercle Bacillus Emulsion in Treatment of Tuberculosis. (Spezifische Therapie der Tuberkulose.) Krause-Hannover.
90 Unfavorable Experience with Endotin. (Ueber Tuberculinum purum—Endotin.) F. Walterhöfer.
91 *Behavior of the Heart in Pulmonary Tuberculosis. (Verhalten des Herzens bei Lungentuberkulose.) J. Fürbringer.
92 Manometer Findings in Induced Pneumothorax. (Manometrische Beobachtungen bei der Ausübung der Therapie des künstlichen Pneumothorax.) L. v. Muralt.
93 Spengler's I. K. in 400 Cases of Tuberculosis. F. Lukin.
94 *Lung Findings in Scoliosis. (Der Lungenbefund bei Skoliose.) W. Neumann.
95 *Tables for Ready Reference with the "Tuberculin Titer" Test. (Tabelle für die Bestimmung des Tuberkulintiters nach Ellermann-Erlandsen.) A. Erlandsen.

86. **Sham Tuberculin Reaction in the Tuberculous.**—Weihrauch has tested the reaction in 212 tuberculous patients to a sham test injection of tuberculin. The instability of the heat center in the tuberculous was evidenced by the rise in temperature in 56, that is, in 26.4 per cent. after the slight trauma of the injection of mere water or the introduction of the needle without any injection; the reaction was more pronounced when aided by verbal suggestion by the physician. The rise in temperature was accompanied by general disturbances only in two cases, that is, in 0.9 per cent. The pseudoreaction may prove misleading in the clinic; the real criterion is the reaction in the tuberculous focus. There is no focal reaction after the sham injection and the temperature also drops more rapidly than after the real tuberculin injection. There did not seem to be any difference between the length of the interval before the temperature rose after the real and the sham injection except that a positive reaction was obtained between the twelfth and the twenty-fourth hours in eight patients with tuberculin and only in two so tardily with the sham tuberculin.

87. **The Serodiagnosis of Tuberculosis Not Practicable.**—This is the conclusion reached by Roepke after extensive experimental research on the possibility of transmitting to guinea-pigs the anaphylaxis possessed by tuberculous human beings.

91. **The Cardiovascular System in Pulmonary Tuberculosis.**—Fürbringer discusses the toxic influence on the heart and vessels of the tuberculous infection and the organic changes liable to result therefrom. Auscultation rarely shows normal conditions in the heart action. Accentuation of the second pulmonary sound is extremely frequent, he says, even with slight infiltration of the left, upper lobe, of which it may be the first sign in adults. The toxic influence of the tuberculous infection is felt mainly by the myocardium, and this permanent overirritability of the heart almost inevitably entails in time organic injury of the heart muscle and arteriosclerosis.

94. **Deceptive Lung Findings in Scoliosis.**—Neumann analyzes the percussion and auscultation findings liable to be encountered with curvature of the spine and mistaken for the results of tuberculous processes in the lungs. He cites some typical examples of various types of this scoliotic pseudotuberculosis and complications. In one case there was deformity of the chest plus acute bronchopneumonia. In another case the scoliosis was accompanied by a recent active tuberculous process in the lung, and in another with relics of an old healed process. Only a thorough knowledge of the findings to be expected in the chest with curvature of the spine will permit correct differentiation in such puzzling cases as these. He has found them comparatively frequent and, oftener than not, tuberculosis has been incorrectly diagnosed. In a typical case a high school graduate was rejected by a medical examiner on account of pronounced dulness over the back of the right apex, assumed to be a sign of a tuberculous process. The young man held himself straight, but closer examination

of the back showed that the left iliocostal muscle was abnormally prominent. A tendency to scoliosis was thus detected and the findings over the lungs proved to be those characteristic only of curvature of the spine. Such cases are frequently encountered, the patients passing through the hands of many physicians, none of them discovering the scoliosis responsible for the pseudotuberculosis findings. Many of the patients were regarded as holding themselves unusually straight; in some cases lordosis in the middle thoracic segment of the spine contributed *to the stiffly erect posture. The scoliosis in these puzzling cases* is too slight to attract attention unless especially sought for. One shoulder a little higher than the other, lordosis in the thoracic vertebræ or undue prominence of the sacrolumbal muscle on one side may be the only sign of the tendency to scoliosis. Neumann's experience has further shown, he asserts, that persons with kyphoscoliosis and mitral defects are exceptionally resistant to pulmonary tuberculosis. Among 1.767 cadavers only 59.5 per cent. were found free from tuberculosis, while of 120 cadavers with mitral defects, 77.6 per cent. were free from tuberculosis and 73.4 per cent. of 49 kyphoscoliotic cadavers. Among the typical findings with scoliosis Neumann mentions contralateral apical dulness, that is, on one side in front and on the other side in the back; dulness over the apex at the rear with dulness over the base on the other side. If dulness is noted over a lung corresponding to the extent of the scoliosis, this cannot be accepted as an indication of tuberculosis. Another sign of the pseudotuberculosis is the lesser movability of the base of the lung on the side opposite the convexity of the curvature of the upper thoracic vertebræ. This sign was constant in his cases. With light percussion the lung was found two or three finger-breadths above that of the other side and the margin of the lung did not share in the excursions of the other side.

95. **The "Tuberculin Titer" Quantitative Test.**—THE JOURNAL, May 15, 1909, page 1634, described the method devised *by Ellermann and Erlandsen to test the hypersusceptibility of the organism to tuberculin* by a graduated cutaneous tuberculin test with varying concentrations of the tuberculin. Erlandsen states that further experience has confirmed the simplicity and reliability of the method. He has worked out a set of tables for exact mathematical recording of the individual findings. All that is necessary to know is the average diameter of the four papules that follow inoculation with the four concentrations (0.5, 2, 8 and 32 per cent.), and the average of the differences between the diameters of the papules. The table shows at a glance the corresponding titer within a range of titers from 25 to 5.846, thus enabling instructive comparison of cases, and estimation of the individual conditions.

Berliner klinische Wochenschrift

February 6, XLVIII, No. 6, pp. 241-280

96 Tobacco Psychosis in Boy of Thirteen. P. K. Pel.
97 *The Wassermann and Cutaneous Tuberculin Reaction in Scrofulous Children. R. Hertz and O. Thomsen.
98 Chronic Tetany with Epileptiform Attacks and Psychosis. G. Saiz.
99 *Specific Differential Reactions with Vaccines According to Wright. (Vaccinediagnostik.) H. Reiter.
100 *Rachitis as Causal Factor in Curvature of the Spine. (Rachitis als ursächliches Moment für Rückgratsverkrümmungen.) M. Böhm.
101 *Couching for Cataract. (Reklination des grauen Stars.) G. Levinsohn.
102 Recurring Cutaneous Local Reaction During Pasteur Treatment of Rabies. (Eigentümliche Komplikation während der Pasteur'schen Schutzimpfung gegen Lyssa.) C. Frugoni and C. Gargiano.
103 Changes in Views Concerning Typhoid Epidemiology. G. Sticker.

97. Practically the same article was abstracted in THE JOURNAL, Jan. 28, 1911, page 314.

Vaccine Diagnosis.—Reiter reiterates that every infected organism for a certain period is in a condition of specific allergy, during which it reacts in a specific manner to renewed introduction of the substance inducing the allergy. If this premise is correct, administration of the allergy-inducing substance is a valuable means of differentiation of the infection in question by the specific reaction that follows. Vaccines prepared according to Wright's method answer the desired purpose, and he has found it possible to confirm by this means the diagnosis of streptococcus, gonococcus, pneumococcus and other infections—the specific vaccine induced in every instance a strictly specific biologic reaction. Reiter would like to see this allergic reaction used in other diseases besides tuberculosis and anthrax to which now it is generally confined. It may render good service in other occult infections; the polyvalent vaccines are proving most useful. The serologic determination of the negative phase will further perfect our knowledge of differential biologic reactions in general and the vaccine diagnosis is liable to prove exceptionally valuable in differentiating extra-uterine pregnancy, appendicitis, oophoritis, cystitis, etc. The reaction should not be regarded as more than an adjuvant diagnostic measure; only a focal reaction, he adds, is positive proof of a specific affection. The vaccines are best tested on absolutely healthy individuals; no harm can result, he declares, with the minute dosage required.

100. **Rachitis as a Causal Factor in Curvature of the Spine.** Böhm gives illustrations of a number of cases of curvature of the spine to show that it can be traced in an unsuspectedly large proportion of cases to rachitis in early infancy. Treatment should begin earlier than has been the rule hitherto; physicians should search for the tendency to curvature of the spine in young children with signs of rachitis, and institute treatment in time to prevent irreparable injury. He decries the assumption that faulty postures and school work can induce curvature of a healthy spine. The Roentgen rays, etc., always reveal some anatomic basis for the deformity.

101. **Couching of the Lens for Cataract.**—Levinsohn thinks that under certain urgent indications this operation deserves reinstatement. Such indications are hemophilia and restless mania preventing a cutting operation on the eye. He has recently done reclination in two elderly insane women, and the results, he reports, were highly gratifying; there has been no tendency to glaucoma or other complication during the four and six months to date.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos 5-6, pp. 421-630. Last indexed February 11, p. 463

104 The Pneumogastric Nerve. (Beiträge zur Anatomie, Histologie und Physiologie des Nervus vagus, zugleich ein Beitrag zur Neurologie des Herzens, der Bronchien und des Magens.) L. R. Müller.
105 The Specificity of the Wassermann Reaction and Study of Incomplete Reactions Sometimes Observed in Wasting Diseases. E. Scheidemandel.
106 Radical Treatment of Appendicitis: 611 Cases. A. Ebner.
107 Slight Clinical Value of Antitryptic Action of Pathologic Urine. J. C. Schippers.
108 Two Cases of Aortic Aneurysm Perforating Into the Pulmonary Artery. P. Geipel.
109 Increased Vibration of Chest Wall Always Sign of Infiltration of Lung. (Ueber den Pektoralfremitus.) H. Hochhaus.
110 The Sahli-Seiler Butyrometric Test Breakfast. (Zur Kritik des Sahli-Seiler'schen Probefrühstucks.) O. Prym.
111 Vascular Reflex Disturbances in Syringomyelia. H. Stursberg.

Deutsche medizinische Wochenschrift, Berlin

February 9, XXXVII, No. 6, pp. 241-288

112 *Secretory Disturbances in the Stomach. (Diagnose und Behandlung der Sekretionsstörungen des Magens.) D. v Tabora.
113 *Blotting-Paper Test for Free Hydrochloric Acid in Stomach Content. (Eine neue Methode zur Bestimmung der freien Salzsäure im Magensaft.) I. Holmgren.
114 Functioning of Lung After Release from Induced Pneumothorax. C. Forlanini.
115 Salvarsan in Syphilis. W. Heuck and J. Jaffé.
116 Case of Verrucous Tuberculosis of the Skin and Lymphangitis Due to Bovine Tubercle Bacilli. K. Heuser.
117 Opsonin Treatment of Skin Diseases. M. Bab.
118 Treatment of Detachment of the Retina. (Behandlung der Netzhautablösung.) R. Deutschmann.
119 Inflatable Pessary for Hemorrhoids, Etc. (Pneumopessar für *Haemorrhoiden und Analprolapse.)* E. Schlesinger.

112. **Abnormal Gastric Secretion.**—Tabora reviews recent progress in treatment of secretory stomach disturbances, especially hyperchlorhydria. It used to be supposed that sodium bicarbonate taken after a meal was the most effectual means of combating hyperacidity, but the laboratory has shown that secretion in the stomach is checked by taking the alkali fasting—checked both directly in the stomach and by reflex action from the passage of the alkali into the intestine. The more rapidly the alkali passes into the intestine, the sooner this inhibition occurs, and consequently the best results are obtained when the alkali is ingested fasting. Treatment of hyperacidity, therefore, is by having the patient take half

an hour before each meal a little alkali, and Tabora prefers for this a mixture of 20 parts magnesium usta, 10 parts sodium citrate and 5 parts sodium or magnesium sulphate. A four or six weeks' course of this generally suffices. He has abandoned the use of the bicarbonate as it is liable to induce discomfort and the carbonic acid evolved is a stimulant to further secretion. Sodium and magnesium sulphate have also an inhibiting action on gastric secretion in addition to their valuable laxative powers. The diet should be regulated to postpone as late as possible the production of free acid in the stomach, and this is best realized with an albumin-fat diet: he restricts the diet to albumin and fat more exclusively the severer the secretory disturbances but otherwise prefers a mixed diet. The articles of food should be in such a form as to expose the largest surface to the action of the gastric juice. It is better consequently to have the food in a soft mashed or finely chopped form than to have the patient chew it long, as mastication in itself induces by reflex action secretion in the stomach. Meat is less stimulating in this respect when boiled. The meals should be reduced in number but copious. If the alkali treatment does not cure, a course of oil, 3 tablespoonfuls daily between meals, for several weeks, and eventually a little belladonna may be advisable. With chronic hypersecretion atropin is indicated in case the above measures fail, and the patients should be taught how to use the stomach tube themselves to siphon out the stomach content in case of much pain, especially before retiring at night. He adds that in this case as in all other affections the patient must not be forgotten in treating the stomach trouble, the blood, the mental poise, etc., must be considered. When the stomach trouble is an insufficiency of the secreting powers, rinsing out the fasting stomach with a dilute saline solution is useful, as also administration of hydrochloric acid. The latter not only aids in digestion but starts pancreas functioning, checks putrefaction in the intestines and by reflex action opens the pylorus.

113. **Blotting-Paper Test for Free Acid in Stomach Content.**—Holmgren has discovered that when a dilute solution of hydrochloric acid is dropped on blotting paper, as the fluid spreads by capillary attraction the water spreads farther and fastest while the acid only spreads to a limited distance around the center of the spot where it was deposited. The proportion between the percentage of acid and the proportional extent to which the acid spreads is a constant figure. From these premises he has worked out a simple quantitative test for determination of the free hydrochloric acid in the gastric juice. He applies with a pipette to a square of blotting paper a series of dots, 1 mm. apart, of a 1 per cent. aqueous solution of Congo red. He then deposits a small quantity of stomach content or solution of hydrochloric acid on one of the dots. The fluid spreads but the color reaction is obtained only with a certain number of the dots, those beyond not giving the reaction. By comparing the number of reacting dots with those beyond this zone but reached by the spreading moisture, we have the percentage of free acid in the fluid examined.

Deutsche Zeitschrift für Chirurgie, Leipsic

January, CVIII, Nos. 3-4, pp. 221-428

120 Advantages of Bismuth Paste in Fistulas. M. Brandes.
121 *Surgery of the Lungs. S. Solieri.
122 *Modified Technic for Gastrostomy. (Eine neues Gastrostomie-Verfahren.) P. Lofaro.
123 Diagnosis and Treatment of Acute Osteomyelitis and Purulent Spinal Meningitis. R. Goebell.
124 Ossifying Myositis or Callus Around the Bone? P. Sudeck.
125 Nail Extensio . Heinemann.
126 Plastic Methc . (Interposition eines frei bei knöcherner Ankylose des Ellenbogengelenks.) V. Thom.

121. **Surgery of the Lungs.**—Solieri, of Siena, Italy, reports six cases in which an operation was done on the lung for abscess or gangrene, with recovery in all but one case in which the lesions were multiple and the patient a feeble young child. One patient was a man of 54 with a large post-pneumonia gangrenous process in the right lower lobe. The cavity was the size of a man's fist and the man collapsed as it was evacuated under local anesthesia and hovered between life and death for several days; the lips of the wound became gangrenous. Cautious cleansing with potassium permanganate and hydrogen dioxid gradually conquered this tendency and the patient left the hospital in good condition by the end of the month. The lung was entered from the rear in all the cases. Echinococcus cysts in the lungs promise better results after operative treatment, Solieri says, than any other surgical pulmonary affections.

122. **Improved Technic for Gastrostomy.**—Lofaro gives an illustrated description of his technic for making a permanent and continent opening into the stomach. [The main points were given in THE JOURNAL, Jan. 7, 1911, page 78.] He compares it with the various technics in vogue and extols its superior advantages. He has done the operation on eight large dogs and watched its ultimate outcome; complete and permanent continence was obtained in every case, the gastrostomy showing no change in any case during the months since, and his experiments on cadavers indicate that the same results can be counted on in human beings.

Jahrbuch für Kinderheilkunde, Berlin

February, LXXIII, No. 2, pp. 131-258

127 Hemoglobinuria After Chilling. (Paroxysmale Kältehämoglobinurie.) M. Brückner.
128 Bacteriology of Respiratory Diseases in Children. I. H. Vogt.
129 *Casein Curds in Infants' Stools: Biologic Proofs of Their Casein Origin. (Kasein-Gerinnsel in Kinderstuhl. Biologischer Beweis ihres Ursprungs aus Kasein.) F. B. Talbot.
130 *Early Mortality of Several Children in a Family. (Frühzeitiges Sterben zahlreicher Kinder in einer Familie.) K. Stolte.
131 Water Content of Infants' Blood in Health and Disease. (Wassergehait des Blutes.) F. Lust.

129. Practically the same article appeared in *Archives of Pediatrics*, June, 1910.

130. **Familial Mortality in Children.**—Stolte gives the details in respect to 100 families in which from two to ten children died before reaching the age of six, or still larger numbers died under the age of fourteen. In one family five children died about the end of the third month with diarrhea, although breast-fed and well tended. They were all "nervous" children and a neuropathic tendency seemed to prevail in the children of most of these families. The children in each family succumbed with apparently the same syndrome. Knowledge of such occurrences suggests antisyphilitic treatment of the parents in case of another pregnancy, if syphilis is suspected. When there is an unusual susceptibility to infections, general measures are useful in prophylaxis, but the physician is practically powerless in the cases where degeneracy is responsible for the lack of vitality.

Medizinische Klinik, Berlin

February 5, VII, No. 6, pp. 207-248

132 *Cystic Serous Meningitis of Posterior Cranial Fossa. (Meningitis cystica serosa der hinteren Schädelgrube.) R. Bing.
133 *Connection Between Civilization and Mental Disease. (Zusammenhang zwischen Zivilisation und Geisteskrankheiten.) A. Tamburini.
134 Zinc Ions in Local Treatment of Septic Corneal Ulcer. (Heilung des septischen Hornhautgeschwurs durch Zinkiontophorese.) Lubowski and P. W. Sachs-Müke.
135 ne in Man. W. Bloch.
136 Lenzmann.
137 efects of the Brain with Pitui- Anwendung von Hypophysis-praparaten.) Bahrmann.
138 Physical Measures in Treatment of Asthma. Pescatore.
139 *Injection of Gelatin for Functional Test of Bone Marrow. (Funktionsprüfung des Knochenmarks am Menschen mittels Gelatininjektionen.) A. v. Decastello and A. Krjukoff.

132. **Serous Meningitis of Posterior Cranial Fossa.**—The patient in Bing's case was a man of 27, previously healthy, who developed symptoms suggesting compression of the cerebellum and adjacent organs, commencing with weakness of the legs, and gradually increasing during the year until the patient was in constant dread of falling. He also felt dizzy in walking, sitting and reclining except when he reclined on the left side. Occasionally he vomited without preceding nausea. There was no actual headache but a sensation of oppression at the base of the skull. Numbness in the left hand was another symptom, and during the last few weeks there had been some impairment of vision and hearing. The appetite was good, sleep restless, bowel functioning defective, and there was left facial paralysis, but the eye reflexes were unmodified. On the diagnosis of tumor in the left cranial fossa—possibly serous meningitis—the focus was exposed and a cystic ac-

cumulation of fluid found in the posterior fossa, adhesions walling it in perfectly. As the adhesions were divided the fluid escaped and all trouble was at an end, the patient promptly recovering and the symptoms gradually subsiding. Six months later some of the symptoms returned to a slight extent but under potassium iodid they partially subsided anew and the cure was finally completed by substituting for the iodid. tincture of nux vomica. and pushing the dose rapidly to 40 drops a day. Improvement kept pace with it, the patient soon being freed from all symptoms. There was no history of trauma or syphilis in this case but the patient had had at one time a bilateral middle ear affection which might have been responsible for the development of the adhesions. The experience with this case testifies, Bing thinks, in favor of operative treatment at once without wasting time on lumbar puncture which could not possibly have done any good as there was *no* apparent communication between the cyst and the spinal fluid, while there is always a possibility of serious damage from lumbar puncture with any tumor in the brain. The case further teaches, he declares, the inadvisability of wasting precious time with antisyphilitic measures; an old syphilitic may have a non-specific tumor in his brain. In a case recently reported by Oppenheim he had diagnosed a tumor in the cerebellopontine angle and advised immediate operation, but as the Wassermann reaction was positive, although there was no history or sign of syphilis, a course of mercurial treatment was instituted and transient benefit was realized; soon, however, recurring severe symptoms brought the patient to the operating table and a fibroma as large as a hen's egg was easily shelled out of the angle. The patient died five days later of cardiac paralysis.

138. **Relation Between Civilization and Mental Disease.**—Tamburini cites historical data to show that mental disease was common among ancient and historical peoples and is common among the less civilized at the present day. The progress of civilization has eradicated the epidemic forms of mental disease, while the greater attention and care now paid to the insane has apparently increased the proportion of the mentally unsound, but he is convinced that this increase is only apparent. Civilization is now confronted with the task of eradicating the causes which breed mental disease, and he pleads for concerted international action, collecting and comparing data and teaching physical and moral hygiene—science, practical pedagogics and legislation all working toward this end.

139. **Gelatin Test of Bone-Marrow Functioning.**—Subcutaneous injection of a little gelatin is followed by marked hyperleukocytosis if the bone marrow is capable of responding to stimuli, as Decastello and Krjukoff found in tests of forty-two patients. The findings are important both for diagnosis and prognosis in certain circumstances.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

February, XXXIII, No. 2, pp. 125-264

140 The Ovaries with Constitutional Anomalies. (Die weibliche Keimdrüse bei Anomalie der Konstitution.) J. Bartel and E. Herrmann.
141 Absence of One Ovary with Rudimentary Tube and Normally Developed Uterus. E. Sachs.
142 *Puerperal Inversion of the Uterus. F. Pachner.
143 Vaginal Cesarean Section in Abortion and Premature Delivery. (Sectio caesarea vaginalis als Methode der künstlichen Fehl- und Frühgeburt.) G. Klein.
144 Bacteriologic Study of the Blood in Puerperal Fever. M. Semon.
145 Case of Fatal Staphylococcus Aureus Hæmolyticus Sepsis After Abortion. A. J. M. Lamers.
146 *Variations in Weight of New-Born Infants. (Ueber Gewichts- [illegible] erer Berücksichtigung [illegible] gen.) M. Heidemann.
147 [illegible] s. (Intrauterine in [illegible] und Anencephalus.) T. Rosenthal.
148 Pyelitis in Pregnancy. S. Mirabeau.
149 Tuberculosis of the Female Urinary Apparatus. S. Mirabeau.
150 Chronic Intermittent Hydronephrosis in Women. S. Mirabeau.

142. **Puerperal Inversion of the Uterus.**—Pachner ascribes the inversion to relaxation of the muscular wall of the uterus. or of its lower segment. This view is sustained by the recurrence of the inversion at different deliveries, the peculiar thinness of the uterine wall in such cases, and the fact among others that inversion occurs more frequently at the first delivery and with younger women.

146. **Variations in Weight of New-Born Infants.**—In this communication from the Heidelberg Maternity, Heidemann states that he has made a practice during the last four years of having the infants nursed at intervals of four hours, that is, allowing only five feedings in twenty-four hours. This gives both mother and infant a chance to rest better, and systematic weighing of the children showed that they thrived unusually well under this arrangement. The nipples were less liable to crack with these long intervals, and working women found them much more convenient as the infant grew older.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 10, pp. 549-592

151 *Influenzal Meningitis. G. Simon.
152 *Cardiospasm in Infants. C. Beck.
153 *Scarlatinal Thyroiditis. J. Bauer.

151. **Influenzal Meningitis.**—Simon reports two cases in previously healthy infants about eight months old. After a week of cough and fever, suppurative meningitis developed and influenza bacilli were found in the spinal fluid and pus in the cerebral ventricles, joints or middle ear. The primary focus was in the lung in one case and in a joint in another. He tabulates the details of forty-one somewhat similar cases he has found in the literature; thirty-three of the patients were under the age of 2 and 90 per cent. under 9. Only 10 per cent. recovered, including one woman of 33, two children about 8, and two infants, 9 and 14 months old respectively.

152. **Cardiospasm in Infants.**—Beck reports two cases in young infants causing uncontrollable vomiting; at first milk poured into the stomach through a tube was not vomited in one case. Later the cardia became impassible in both and the children were fed by the rectum for a time. Then under a little tincture of opium, feeding by the mouth was gradually resumed and there was no further trouble, the infants rapidly recuperating.

153. **Scarlatinal Thyroiditis.**—In Bauer's three cases there had been no tendency to goiter but the thyroid increased in size during the course of scarlet fever. It returned completely to normal size in one boy of 13 by the thirtieth day, but in another boy, traces of the swelling were still perceptible on the sixty-sixth day, as also in the third patient, a young woman, on the forty-third day. The thyroiditis in this case was evidently one of the primary manifestations. The scarlet fever had been of a mild type, with no other complications, in all.

Münchener medizinische Wochenschrift

February 7, LVIII, No. 6, pp. 289-336

154 Oxidation Processes in the Cells. O. Warburg.
155 Plastic Operation for Femoral Hernia. (Radikale Operationen des Schenkelbruches durch Faszienplastik.) M. Wilms.
156 *Artificially Induced Petechiæ as Sign of Scarlet Fever. (Hautblutungen durch Stauung hervorgerufen als diagnostisches Hilfsmittel beim Scharlach.) C. Leede.
157 Acute Pustulous Exanthem in Brazil: White-Pox. (Weisse Pocken.)
158 Cutaneous [illegible] osa faciei.) E. Moro.
159 *Gastric Fe [illegible]
160 Salvarsan [illegible] mit Salvarsan ambulatorisch [illegible] und. (Klinische Prüfung des [illegible] G. Treupel and A. Levi. Commenced in No. 5.
161 Glycerin as Part Vehicle for Salvarsan. (Zur Technik der Zubereitung der Salvarsanlösung zu Zwecken der intramuskulären Injektion.) B. Kozlowski.
162 Testing Vision in Examining Chauffeurs. (Das Sehorgan des Automobilführers.) G. Freytag.

156. **The Tourniquet Sign of Scarlet Fever.**—Leede has found that a slightly constricting band applied to the upper arm causes petechial bleedings below in case of the existence of scarlet fever. He has been applying this tourniquet sign in cases of suspected scarlet fever and obtained a positive response in all but 1 of the 200 patients tested; the single exception being a very fat girl, while a positive response was obtained only in one of the control cases—a syphilitic woman who proved to be free from scarlet fever. Nothing like the specific petechial spots in the bend of the elbow could be obtained in any other disease except that there was a slight tendency in this line in measles. In some cases the sign was positive the first day and the findings grew gradually less pronounced as the disease subsided, but it was still evident by the end of six weeks in some, and with hemorrhagic nephritis the sign was still positive by the fifteenth week.

The most convenient method of applying the constriction was with the Riva-Rocci cuff; the petechiæ developed in from five to twenty minutes. [Compare with Abstract 47 in THE JOURNAL, Feb. 18, 1911, page 545.]

159. **Gastric Fever.**—Scheglmann during the last two summers in his rural practice has encountered a number of cases of what can only be styled gastric fever. The last epidemic embraced 140 cases; after three days of fever at 39.5 or 40 C. (about 103 and 104 F.) the fever gradually declined and by the end of two weeks the patients had entirely recovered. The onset was stormy, with a chill and intense persisting frontal headache, with vomiting during the first two or three days; the patients also complained of oppression in the chest, pain in the stomach and all the limbs and extreme prostration. When they were able to get up they staggered, and the digestive organs were extremely sensitive so that the slightest indiscretion in diet during the second week brought on the whole syndrome again. No complications were observed, the kidneys appearing to be intact. He regards influenza as excluded on account of the total absence of catarrhal symptoms, the upper air passages persisting normal throughout, and there being no sacral pain. But the main argument against the diagnosis of influenza is the fact that other members of the family were not affected. An epidemic of influenza in the summer is also a rarity. No one seemed to be affected except harvest workers. The agglutination test for typhoid and paratyphoid was always negative.

Wiener klinische Wochenschrift, Vienna

February 9, XXIV, No. 6, pp. 191-226

163 *Non-Destructive Action of Placenta Serum and Serum of Pregnant Women on Human Cancer Cells. R. Kraus and E. v. Graff.
164 Reciprocal Relations Between Inflammatory Processes in Appendix and Tubes. (Zur Frage der Wechselbeziehungen zwischen entzündlichen Erkrankungen des Processus vermiformis der Tuba Fallopii mit besonderer Berücksichtigung der Perforation des Wurmfortsatzes in die Tube.) I. I. Grekow.
165 Corporal Proportions of Cretins. A. Flinker.
166 Streptothrix Disease in Man. G. Gjorjevic.
167 Quarantine Studies. E. Wiener.

163. **Non-Destructive Action of Placenta Serum on Human Cancer Cells.**—The results of the research reported by Kraus and von Graff supplement the recent findings by others that under certain circumstances the human blood-serum loses the property of destroying carcinoma cells. Normal serum dissolves human and mouse cancer cells, while the serum of persons with cancer has lost this property, and Kraus and von Graff announce that the serum from the umbilical cord behaves in this respect like the serum from cancer patients. The blood-serum of pregnant women nearing term has the same property in a lesser degree. These facts seem to indicate that it must be the placenta which is responsible for the abnormal behavior of the pregnancy serum in respect to cancer cells and that the chemistry of metabolism is evidently involved in the phenomenon.

Zeitschrift für Urologie, Berlin

January, V, No. 1, pp. 1-80

168 *Atony of Bladder Without Obstruction or Signs of Organic Nervous Disturbances. J. W. Thomson Walker.
169 Simple Pyonephrosis. (Zur Kasuistik der geschlossenen Pyonephrosen.) E. Meyer.
170 Case of Addison's Disease in Connection with Urogenital Tuberculosis. A. Werner.

168. **Atony of the Bladder Without Obstruction or Organic Nervous Disease.**—Walker reports nine cases in which nothing could be found to explain the insufficient expulsive power of the bladder. The age of the patients ranged from 22 to 59; two had had syphilis, four gonorrhea. The disturbance had come on slowly and gradually in all the cases, and in only one had there been acute retention at any time. The bladder was chronically dilated in four cases, but evacuation was finally complete, while in the others there was from 100 to 300 gm. of residual urine. In every case the bladder showed pronounced trabeculæ, but they were distributed differently from those observed in cases of obstruction, the side walls and apex being mostly involved. He regards the trabeculæ as secondary to the atrophy, and cites two additional cases in which the atony had progressed until the catheter had to be used constantly. He has been able to find only a few similar cases on record; he cites the details of Albarran and Nogues' cases in men of 27 and 28.

Zentralblatt für Chirurgie, Leipsic

February 11, XXXVIII, No. 6, pp. 185-224

171 *Modified Vein Anesthesia. A. Brüning.
172 *Plastic Closure of Fistulas Opening Out of Internal Organs. Abrashanoff.
173 *Chronic Catarrh of Breast. (Chronischer Katarrh der weiblichen Brustdrüse.) W. Mintz.

171. **Modified Technic for Vein Anesthesia.**—Brüning avoids the drawbacks of expulsion of blood from the entire limb—bloodlessness is an imperative condition for the success of vein anesthesia—by restricting the induced anemia to a comparatively narrow segment of the limb. This is accomplished by raising the limb for a time to expel the blood by force of gravity; then a constricting band is applied between the lesion and the trunk. Commencing at this band, the blood is expelled toward the trunk as by the ordinary technic, and then a second constricting band is applied above. By this means it is possible to obtain a bloodless zone of from 10 to 15 cm. wide between the lesion and the trunk, and here the anesthetic is injected to deaden the nerve trunks innervating the field of operation below. By the modification described, both constricting bands are applied above the field of operation leaving the lesion undisturbed until ready to operate. [The technic for vein anesthesia was described in THE JOURNAL, May 1, 1909, page 1466.]

172. **Fascia Plug for Fistulas.**—Abrashanoff cuts a strip of fascia, twists it around and pushes it down to the bottom of the fistula, holding it in place with a few sutures. It speedily grows to the freshened walls of the fistula and the spaces left are soon filled with regenerating tissues. He has applied the method in three cases with ideal results to date, over nine months in one case. The theoretical objections that might be made to the procedure do not seem to materialize in practice.

173. **Chronic Catarrh of Mammary Gland.**—Mintz applies this term for want of a better to a chronic secretion of yellow serum from one breast, persisting for from months up to several years, in the eight cases of the kind which he has encountered in the last six years at Moscow in women 30 years old and upward. The interval since the last pregnancy was nine or more years. Some had nursed and others had not nursed their last child. No subjective symptoms or appreciable changes in the breast could be discovered in six cases. In the seventh a carcinoma developed finally in the breast affected. In the eighth case an adenoma developed as the abnormal secretion became apparent, but the secretion persisted after removal of the tumor, and a superficial mastitis developed the sixth year. In the fifth year another adenoma developed in the other breast. He declares that the anomaly has nothing to do with Paget's disease of the nipple. In one case the secretion had persisted for two years, when it ceased after a course of potassium iodid, and there has been no recurrence during the three years to date. The secretion did not seem to have any connection with menstruation or the menopause. In the woman with carcinoma the secretion became hemorrhagic after three years as the tumor developed. He is inclined to explain the trouble as transudation from connective tissue accompanying a desquamating process in the acini, but he has not been able to examine a specimen anatomically. The affection has certain points in common with chronic cystic mastitis, of which he has encountered a special form, the mammary gland being studded with cysts with connective tissue walls, as he found in an operative case. He described this type in 1899, the subepithelial proliferation of connective tissue causing the casting off of the acinus epithelium, the latter forming, with the secretion from the granulations, the contents of the cysts.

Zentralblatt für Gynäkologie, Leipsic

February 11, XXXV, No. 6, pp. 225-256

174 *Allowing Patients to Get Up Early After Operations and Delivery. (Das Frühaufstehen der Wöchnerinnen und Operierten und die hierbei beobachteten Todesfälle.) O. Aichel.
175 Technic of Suprasymphyseal Cesarean Section. E. Frank.
176 Rubber Cap to Draw Over Cancerous Uterus During Hysterectomy. (Vorschlag zur Verhütung von Impfmetastasen im Paravaginalschnitt.) K. Czerwenka.
177 Hypnosis. ("Suggestionsnarkose und Hypnose.") A. Rieck

174. Allowing Patients to Get Up Early After Laparotomies and Deliveries.—Aichel reviews the cases on record in which thrombosis developed in patients allowed to get up on the second or third day and analyzes the circumstances to determine whether this was responsible for the fatal outcome which has been reported in six cases. His conclusions are that this is possible only for two of the cases, Fromme's and Scherer's, and closer analysis of these fails to demonstrate that thrombosis and embolism are more liable to occur when patients are allowed to leave the bed earlier. The method has the great advantage that when patients are allowed to get up earlier they are kept under closer supervision than formerly, and this goes a long way, he remarks, toward prevention of sudden fatalities in parturients and patients after operations. Scherer has stated in regard to his case that it was his impression that the outcome of the thrombosis might have been more favorable if the patient had stayed quietly in bed. but Aichel comments that although this may be true, it is impossible to prove it.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 31, XXXII, No. 14, pp. 147-154

178 Operative Treatment of Relics of Inflammation in Peritoneal Cavity. (Laparotomia per placche adhesive inflammatorie nella cavita peritoneale.) N. Federici.

February 2, No. 15, pp. 155-162

179 Varices in Round Ligament During Pregnancy Simulating Inguinal Hernia. I. Bruchi.

February 5, No. 16, pp. 163-178

180 *Relations Between the Kidneys and Suprarenals in Chronic Nephritis. F. d'Alessandro.

180. The Suprarenals in Chronic Nephritis.—D'Alessandro analyzes the clinical syndrome in eleven cases with necropsy findings in five, in which chronic nephritis was accompanied by lesions in the suprarenals. The latter, however, proved to be only such as are found with ordinary infectious diseases or in the aged, there being nothing to sustain the assumption that chronic nephritis induces a compensating hyperfunctioning of the suprarenals.

Policlinico, Rome

January, XVIII, Surgical Section No. 1, pp. 1-48

181 Surgery of Blood-Vessels. (Suture, anastomosi artero-venose e trapianti vasali. Studio sperimentale.) A. Curcio.
182 Frambesia in Brazil. (Nota sopra alcune affezioni framboesiche osservate in Brasile.) A. Splendore.

Riforma Medica, Naples

January 30, XXVII, No. 5, pp. 113-140

183 *Wassermann Reaction in Malaria. (La prova della deviazione del complemento della malaria.) F. Valerio.
184 Diabetes Insipidus. T. Silvestri. Commenced in No. 4.
185 Blood Findings in Malta Fever. (Ricerche ematologiche nelle suppurazioni da micrococco di Bruce.) F. Addari.

February 6, No. 6, pp. 141-168

186 Insufficiency of Several Ductless Glands. (Caso di insufficienza pluriglandolare.) A. Murri. Commenced in No. 4.
187 *Simplified Technic for the Wassermann Reaction. (Una notevole semplificazione di tecnica per la prova della fissazione del complemento.) L Ferrannini.
188 Study of Coagulation of Blood. (Il tempo di coagulazione del sangue. Sostanze coagulanti e decoagulanti.) C. Mantelli.

183. Wassermann Reaction in Malaria.—Valerio found a positive reaction in 40 per cent. of a number of cases of recent malaria, free from syphilis. In advanced malaria and in old cases in which no parasites could be found in the blood the reaction was negative.

187. Improved Technic for the Wassermann Reaction.—Ferrannini writes from the medical clinic of the university of Naples, in charge of Professor Rummo, to state that it is possible to use in fixation of complement the blood of eels. Eel serum has long been known to have remarkable hemolytic powers. It was with the serum of eels that the well-known work on hemolysins and antihemolysins was done by Camus, Gley and Kossel in 1898 and Tchistowitch in 1899. The eel serum thus provides the hemolytic amboceptor for the fixation of complement test. From an eel weighing 200 gm., by cutting off its tail, enough blood can be obtained to yield 2 or 3 c.c. of serum after centrifugation or spontaneous clotting. This serum is especially hemolytic for rabbit red corpuscles. He has been making extensive comparative tests with the original Wassermann technic and with the eel serum used in place of the prepared hemolytic serum from rabbits—which it takes three or four weeks to obtain by repeated treatment of the rabbit. The findings were parallel in the long series of parallel tests and he thinks that as eels are readily procured and the serum does not lose its hemolytic property for some time after death, this modification of the technic will prove a welcome simplification.

Hygiea, Stockholm

January, LXXIII, No. 1, pp. 1-128

189 *Spondylarthritis. (Studier öfver reumatiska och reumatoida sjukdomar. I.) I. Hedenius.
190 Elimination of Mercury Through the Kidneys. (Om kvicksilfvereliminationen genom njurarna vid intramuskulära injektioner af merkuriololja.) M. Möller and A. Blomquist.

189. Spondylarthritis.—Hedenius gives the details of seventeen cases of spondylarthritis. his analysis convincing him that there are two well-defined forms of arthritis of the spine which have frequently been confused in the past. The first is of an infectious-toxic nature generally but it can be likewise induced by trauma, severe or slight but often repeated. This form, which he calls ankylopoetic or adhesive spondylarthritis, usually attacks individuals in early middle age. The primary lesion is the ankylosis of the vertebræ as described by Bechterew, Strümpell, Marie and others. The other form, deforming spondylarthritis, has been described for centuries. It is not of infectious origin, so far as known to date is not accompanied by fever, and in most cases is localized in the lower segments of the spine. The trouble is generally stationary and displays little tendency to spread upward. Ankylosis of the spinal articulations is not the primary but a secondary phenomenon in this type; the pathologic process is often symptomless. Of course transitional forms may be frequently observed.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Cesarean Section in Great Britain and Ireland. With Tables of 1,282 Cases of Cesarean Section by over 100 Living Obstetricians and Gynecologists in Great Britain and Ireland. By Amand Routh. M.D. (Lond.), F.R.C.P. (Lond), Obstetric Physician to Charing Cross Hospital, London. Being a Report on the Subject read at the V-me Congrès International d'Obstétrique et de Gynécologie at St. Petersburg in September, 1910. Cloth. Price, 5 shillings net. Pp. 233 London: Sherratt & Hughes, 34 Cross Street, Manchester, 1911.

Crown-Gall of Plants: Its Cause and Remedy. By Erwin F. Smith, Pathologist in Charge of Laboratory of Plant Pathology, Nellie A. Brown, Scientific Assistant, and C. O. Townsend, Formerly Pathologist in Charge of Sugar-Beet Investigations. Bull. 213, Bureau of Plant Industry. U. S. Dept. Agric. Issued Feb. 28, 1911. Paper. Pp. 215, with illustrations. Washington: Government Printing Office, 1911.

Manual of Cystoscopy. By J. Bentley Squier, M.D., Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital, and Henry G. Bugbee, M.D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Morocco. Price, $3 net. Pp. 117, with illustrations. New York: Paul B. Hoeber, 1911.

Transactions of the American Surgical Association. Volume XXVIII. Edited by Archibald Maclaren, M.D., *Recorder of the* Association. Printed for the Association. Robert G. LeConte, M.D., Secretary, 1530 Locust St., Philadelphia. Paper. Pp. 664, with illustrations. For sale by William J. Dornan, Philadelphia, 1910.

A Manual of Gynecology. By Thomas Watts Eden, M.D., C.M., Edin., F.R.C.P., Lond., Obstetric Physician with Charge of Out-Patients, and Lecturer on Midwifery and Gynecology, Charing Cross Hospital. Cloth. Price, $5 net. Pp. 632, with 272 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

Biennial Report of the Nebraska Orthopedic Hospital, Lincoln, Neb. For Period Ending Nov. 30, 1910. To Hon Ashton C Shallenberger, Governor, and Honorable Board of Public Lands and Buildings. Paper. Pp. 40, with illustrations. J. P. Lord, Superintendent.

Die erweiterte abdominale Operation bei Carcinoma Colli Uteri. (Auf Grund von 500 Fällen.) Von Dr. E. Wertheim in Vienna. Paper. Price, $3.65. Pp. 203, with illustrations. Vienna: Urban & Schwarzenberg, 1911.

Text-Book of Massage. By L. L. Despard, Member and Examiner Incorporated Society of Trained Masseuses. Cloth. Price, $4 net. Pp. 290, with 204 illustrations. New York: Oxford University Press, 1911.

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THE AUTONOMIC MANIFESTATION AND PERIPHERAL CONTROL OF PAIN ORIGINATING IN THE UTERUS AND ADNEXA[*]

CHARLES A. L. REED, A.M., M.D.
Professor of Clinical Gynecology in the University of Cincinnati, and Gynecological Surgeon to the Hospitals
CINCINNATI

GENERALITIES RELATIVE TO THE AUTONOMIC NERVOUS PHENOMENA

The word "autonomic" as applied to the manifestations of pain of visceral origin, signifies the expression of that pain in some superficial muscle or muscles rather than in the viscus in which it has its initial causation. The phenomena clearly imply the existence and coöperation of three distinct factors, namely:

1. Some more or less profound disturbances, functional or organic, of certain of the viscera.
2. The transmission of a painful impulse, thus originated, over or through what Head[1] has designated as the autonomic nervous system.
3. The registration of that impulse and its expression as pain in the muscle or muscles to which the respective external or peripheral autonomic filaments (muscle nerves) are distributed.

It is through this mechanism and by the coöperation of these factors, according not only to Head,[1] but to Ross[2] and Mackenzie[3] that the phenomenon of muscular rigidity occurs autonomically, for example, over an inflamed appendix vermiformis or over an impacted gall-bladder, or over the seat of an intussusception.

Through this same mechanism in each of the instances given, and for manifest reasons, the intensity of the pain and of the muscular rigidity are relative each to the other, while both are relative to the intensity of the causative change in the viscera.

The peripheral control of pain thus originating and thus manifesting itself implies either one of two hypotheses. The first is that if an algetic impulse can be telegraphed, as it were, from viscus to muscle, it would seem possible to telegraph an analgetic impulse back over the same wires, i. e., from muscle to viscus. The second hypothesis is that if the functions of the external autonomic filaments can be inhibited the algetic impulse cannot reach the muscles and must consequently fail of expression as pain.

Whether an algetic impulse originating in a given viscus *per se*, or whether, after transmission through the autonomic nerve filaments, it is expressed exclusively in or through its corresponding muscles, is a theoretical problem, the solution of which is quite apart from my present purpose.

AUTONOMIC AND OTHER NERVOUS RELATIONS OF THE UTERUS AND ADNEXA

The application of these general principles to conditions originating within the pelvis necessarily involves at least a brief consideration of the autonomic relations of the intrapelvic organs.

I find that the more convenient way to present this subject is to divide the genital organs into three zones, viz.:

1. The first or upper genital zone, consisting of the fundus of the uterus, the Fallopian tubes and the ovaries. To this zone are supplied:

A. Sympathetic branches from the plexus hypogastricus through the plexus arteriæ ovaricæ in the broad ligaments.
B. Sensory branches from the twelfth dorsal and from the first and second lumbar nerves.
C. Autonomic filaments afferent from the zone indicated to the spinal centers.

These filaments occur coincidently with the sympathetic and reach the spinal cord through the communicating branches in the lower dorsal and upper lumbar regions. Their terminal distributions are to the intertransversæ and to the quadratus lumborum and to the two psoas muscles.

2. The second or middle genital zone, consisting of the cervix uteri, to which are supplied:

A. Sympathetic branches from the lower ganglia.
B. Sensory branches from the second, third and fourth sacral nerves.
C. Autonomic filaments efferent from the cervix to the spinal centers through (a), the communicating branches of the sympathetic, (b), the second, third and fourth sacral, distributed to the two glutei muscles, to the quadratus femoris, the coccygeus, and the levator ani muscles.

3. The third or lower genital zone, consisting of the external genitalia including the vagina, is not considered in this connection.

THE RELATION OF AUTONOMIC NERVOUS PHENOMENA TO THE DIAGNOSIS OF INTRAPELVIC CONDITIONS

The nervous connections of the uterus and adnexa just given, taken in connection with the autonomic function as outlined by Head,[1] have an obviously important relation to diagnosis. Familiar phenomena of pain have a more definite meaning when interpreted in the light of these fact

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[*] Read before the Fifth International Periodical Congress of Obstetrics and Gynecology, St. Petersburg, Russia, Sept. 22-28, 1910.

[1] Head, Henry: Brain, 1893, Part 1, p. 1.

[2] Ross, James: Brain, 1888, x, 333.

[3] Mackenzie, James: Brain, 1893, xxi, 321.

I have been able in this way to associate pain in the costo-iliac interval and in areas representing the distribution of the posterior ramus of the twelfth dorsal nerve with conditions in the upper genital zone as follows, viz., (a) a small submucous nodule in the fundus of the uterus, (b) adhesions of the fundus uteri in the cul-de-sac of Douglas, (c) fixation (hysteropexy) of the fundus uteri to the abdominal wall (an operation never done by myself), (d) premenstrual engorgement of the uterus and ovaries. (e) cirrhosis with follicular degeneration of the ovaries, (f) distention of occluded Fallopian tubes, and (g) ectopic pregnancy.

I have likewise been able to demonstrate the relationship of pain in the ileogluteal area, supplied by the posterior rami of the second, third and fourth sacral nerves, with conditions in the middle genital zone, chief among which are the following, viz., (a) painful cicatrix of the cervix, (b) cervical erosion, (c) intramural myomata of the cervix and (d) cystic Nabothian follicles.

INTRAPELVIC CONDITIONS CAUSING AUTONOMIC MANIFESTATIONS OF PAIN

From the observations just recorded and from a general survey of the subject I am impressed with the probability that, in the majority of instances, more or less definite autonomic manifestations of pain will be found in conditions as follows, viz.:

1. In the uterus: malformations; certain new growths, both hyperplastic and inflammatory; certain premenstrual congestions; mechanical occlusions; displacements; infections.
2. In the Fallopian tubes: infections; occlusions with distensions; ectopic pregnancy.
3. In the ovaries: displacements; pressure from superimposed viscera; infections; tunicæ adventitiæ; adhesions; follicular degenerations; dermoids.
4. In the cervix: cicatrices; erosions; infections; distortions; neoplasms.
5. In pregnancy, complicated with neoplasms or neurasthenia or both.
6. In parturition, in which, ordinarily, the autonomic manifestations of pain shift from the upper to the lower (superficial autonomic) zones coincidently with the progress of the labor.

THE PERIPHERAL CONTROL OF AUTONOMIC PAIN OF INTRAPELVIC ORIGIN

If, from what I have already presented, we are to assume that pain originating in the uterus or adnexa is not pain until it is registered in the form of tonic contraction of the autonomically associated muscle or muscles, it would seem that inhibition of the autonomic function of the respective muscle or muscles would inhibit the manifestation of the pain. I have, in fact, successfully reduced this postulate to practice in a sufficient number of instances to convince me of its general tenability. It is accomplished, in brief, by deep analgetic injections into the substance of the affected muscles themselves. Whether the results depend on the analgetic agent or agents used in these injections, or on the water used, or whether both elements are of importance may will be taken up by the experimental pharmacologist.

I wish here to record, however, that, something like forty years ago the late Prof. C. G. Comegys of Cincinnati successfully inaugurated the practice of treating lumbago by injections of distilled water into the substance of the quadratus lumborum muscle. The practice is yet kept up with uniform success by my colleague, Prof. F W. Langdon[4] of the University of Cincinnati with whom, in these cases, aquapuncture is a matter of routine in his wards. In later years, following the introduction of cocain and its congeries of analgetic agents, and especially since the excellent work of Schleich[5] some fifteen years ago, there has been a tendency to rely on the injection of these agents rather than on the infiltration of water for the inhibition of nervous and muscular irritability.

It would seem, however, that in such conditions as lumbago, as shown by Langdon,[4] and in sciatica, as shown by Lange,[6] Sicard,[7] Hecht[8] and other neurologists, there is an increasing tendency to recognize the water as the relatively more important analgetic element of the solution. The three last-named authors are inclined to the use of water in the form of normal salt solution because of its assumed greater isotonicity. Then, too, we must recognize that another and a chief object that they have in using perineural infiltration of large quantities of water in sciatica is mechanically to break up inflammatory connections between the nerve and adjacent structures. Langdon insists, however, that it seems plausible to him "that distilled water would be effective and probably in smaller quantity since the 'affinity' of the nerve tissues (containing salts) would be greater, perhaps, for pure water"—a consideration which offers a rational explanation of his success in the treatment of lumbago by aquapuncture. But without going into this aspect of the subject, and without assuming for a moment that either lumbago or sciatica is autonomic in cause or character—although the former may be—both of these conditions present the phenomenon of muscular irritability and, in that particular, become important criteria for the control of muscular irritability from whatever cause it may occur.

THE RÔLE OF THE AUTONOMIC NERVES IN THE TREATMENT OF VISCERAL PAIN

It seemed to me,[9] after some study of this question, that if the autonomic nerves conveyed an irritating impulse from affected viscera to the surface, those nerves might be employed for telegraphing a corrective impulse back from the surface to the affected viscera. In other words, if, as Nothnagel and Lennander[10] insist, visceral pain is really pain manifested chiefly in the phenomenon of muscular hyperalgesia, why would not the inhibition of the muscular hyperalgesia inhibit in turn the visceral pain? Acting on this theory I promptly had an opportunity to put it to test. I had done a gastro-enterostomy to control pain and rigidity—epigastric hyperalgesia—following which I had applied heat to relax the muscles and given morphin with which to benumb the sensorium. Thirty-six hours of this treatment had failed to bring relief and the patient was crying to be reanesthetized. I therefore injected into the belly of the rectus abdominis muscles at several points on either side of the incision a solution of cocain and morphin in the form of a Schleich solution. Within twenty minutes the patient dropped into a comfortable sleep and from that time on had no recurrence of epigastric hyperalgesia. The pain following hysterectomies, oophorectomies, and other uncomfortable operations on the uterus and adnexa have been similarly relieved by deep muscular injections into the hyperalgetic areas. In a number of cases I have had entirely satisfactory results from the use of the cocain alone, and latterly with novocain, thus showing that it is sufficient to overcome what I look on as entirely normal but none the less painful muscular irritability, and to do so without hypnotics addressed to the general consciousness. Even in some instances, as in a case of a firm intra-uterine pack following a curettage, in which the superficial hyperalgesias were also present, the inhibition of the muscular irritability within the involved superficial areas was followed also by cessation of the pain referred by the patient to the uterus. From this experience, interpreted in the light of the facts which I have presented, I arrive at the object that I had in preparing this paper, and that was to emphasize, by brief summary, the treatment of various pains of visceral origin.

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[4] Langdon: Personal letter to the author.

[5] Schleich: Schmerzlose Operationen, 1895.

[6] Lange (Leipsic): Deutsch. med. Wchnschr., 1908, No. 6.

[7] Sicard: Quoted by Hecht: The Treatment of Sciatica by Deep Perineural Infiltrating Injections of Salt Solution, THE JOURNAL A. M. A., Feb. 6, 1909, p. 444.

[8] Hecht, D'Orsay: THE JOURNAL A. M. A., Feb. 6, 1909, p. 444.

[9] Reed: New York Med. Jour., March 5, 1910.

[10] Lennander, K. G.: Abdominal Pain, Especially Pain in Connection with Ileus, THE JOURNAL A. M. A., Sept. 7, 1907, p. 836.

TREATMENT OF POST-OPERATIVE, PARTURIENT AND OTHER PAIN OF VISCERAL ORIGIN

1. Visceral pain, so far as the abdomen, pelvis and thorax are concerned, is expressed chiefly but not exclusively in the autonomic algetic areas of the protective walls covering the respective viscera, such algetic areas corresponding in extent with the peripheral distribution of the autonomic nerves coincidently with the peripheral distribution of the respective spinal nerves in the muscles and subserous connective tissue.

2. These distributions can generally be determined clinically by determining the area of partial hyperalgesia.

3. The pain itself, consisting chiefly of hyperexcitation of muscle irritability, can be partially and, as a rule, entirely, inhibited by inhibiting the muscle sensibility in the hyperalgetic areas.

4. The same principle applies to the peripheral control of pain originating in the parturient uterus, with the difference that the infiltration of succeeding muscle zones must be practiced with the corresponding advance of the delivery.

METHOD OF TREATMENT

My method of treatment, briefly stated, is as follows:

1. Have prepared a standard analgetic and local anesthetic mixture as follows:

	gm. or c.c.	
Morphin hydrochlorid	0	01
Novocain	0	04
Scopolamin	0	015
Normal salt solution	1	

This represents a single dose which, before administration. is further diluted with physiologic salt solution to permit of its distribution by numerous deep punctures with an ordinary hypodermatic needle into the hyperalgetic areas.

2. For analgesia, after thoroughly cleansing the integument, all of the mixture is injected into the muscular layer, several punctures being employed and care being taken to make them at points that approximately define the circumference of the hyperalgetic area. The analgetic effects will be realized within from five to ten minutes, and in consequence of the presence of the scopolamin, will be continued often from six to eight hours, while in some instances they will be permanent.

3. For local anesthesia, the same solution is used in the same way, with the exception that it is discharged into the subcutaneous connective tissue at points that approximately define the circumference of the area that it is desired to anesthetize. The sensibility will disappear in from five to eight minutes and will remain absent for a period varying from an hour to three hours.

4. The infiltration treatment practiced by Schleisinger, Hecht and others in sciatica involves the injection of large volumes of the solution, thus, (a) 10 to 20 c.c. of the normal salt solution reduced to zero (Centigrade); (b) 80 to 100 c.c. of normal salt solution at the temperature of the body; (c) 60 to 120 c.c. of beta-eucain solution at the temperature of the body. Langdon's method of treatment by pure aqueous infiltration involves the use of smaller volumes of fluid.

DISCLAIMER

Now that I have presented briefly this phase of the manifestation and control of visceral pain, and in view of the tendency to give a wider scope than is intended to a single idea, I wish, in conclusion, to make a few points clear. In the first place (1) the details of the autonomic phenomena are only beginning to be understood; (2) while I believe that these phenomena when once understood may be classed among the clinical constants, I do not believe that they can have a significance that will justify failure to consider all other diagnostic factors; (3) and I recognize the possibility and, under certain obvious circumstances, the desirability of temporary control of pain by the method I have indicated, I do not recognize the possibility that it can ever supplant the rational curative method which always implies the removal of the cause for the cure of the effect.

THE OPEN TREATMENT OF FRACTURES

S. D. VAN METER, M.D.
Visiting Surgeon to City and County Hospital
DENVER

It is admitted that a large proportion of fractures can be successfully treated by manual reduction and by the ordinary external appliances, designed to retain the fragments in place; but we are all familiar with the difficulty of securing and maintaining perfect reduction by these methods. Further, we know now that in many cases in which we have felt sure of having secured a satisfactory reduction, a subsequent radiograph has too frequently proved the error of our conclusions, and shaken our confidence in the time-honored tests of mensuration and palpation. Particularly is this true in fractures of the femur and humerus, in which we have to contend with a large amount of surrounding soft tissues, and especially when the fracture is oblique or comminuted. It is safe to venture the statement that in such cases an anatomic reduction is seldom, if ever, accomplished by the closed method; and if accomplished, it is next to the impossible to retain the fragments in position.

The recognition of these facts has led surgeons to resort to the apparently more radical procedure of the open treatment, which renders reduction comparatively simple and makes it possible to apply one of the many mechanical devices intended to retain the fragments in position. These devices are numerous, as the archives of surgery give evidence; but they may for practical consideration be divided into two classes, viz., those to be removed after repair of the fracture, and those to be left *in situ*.

The former have the apparent advantage of leaving no foreign body permanently imbedded in the tissues. The danger of trouble from leaving an aseptic metallic substance at the seat of the fracture has been greatly overestimated, however, and is not to be compared with

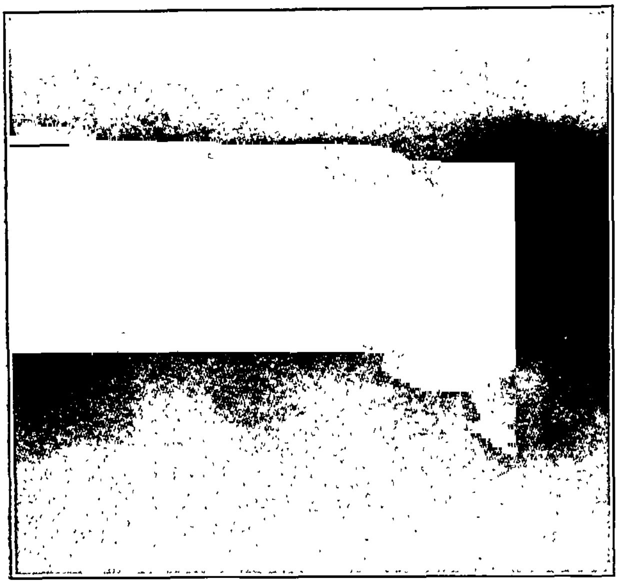

Fig. 5.—Fracture of left femur at middle of lower third with the usual backward displacement of the upper end of the lower fragment (Case 2). Reduction was thought to have been accomplished, but this conclusion was erroneous, as is shown by the radiograph.

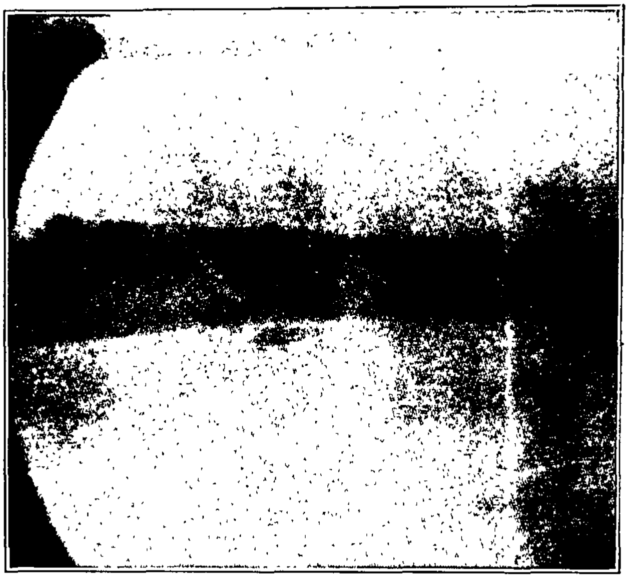

Fig. 6.—Reduction, by open operation and the use of the plate, of fracture shown in Figure 5.

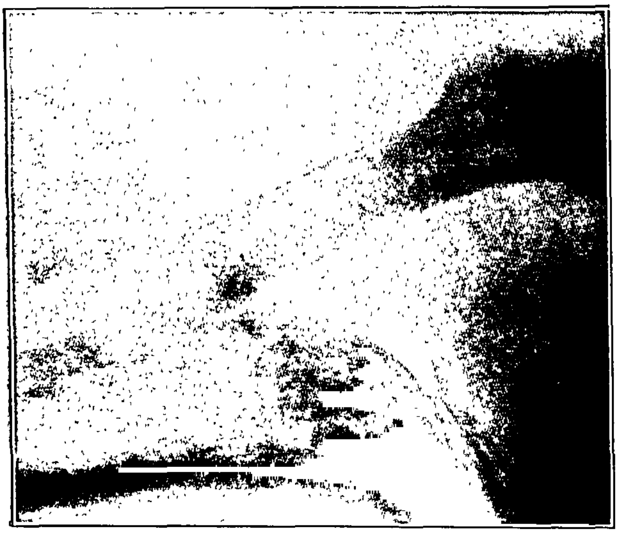

Fig. 7.—Fracture of the left humerus five inches above elbow involving the musculospiral groove, with marked forward displacement of the lower fragment (Case 3).

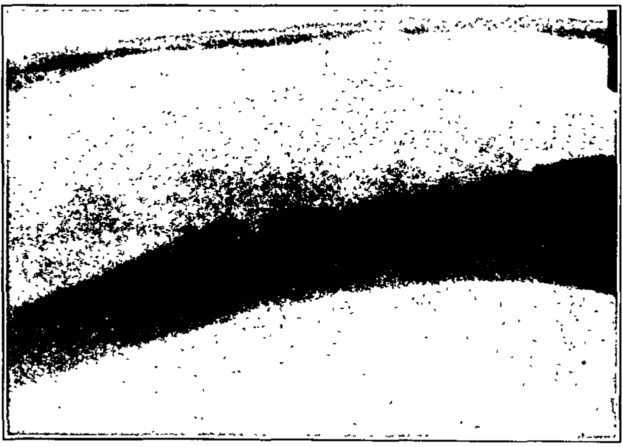

Fig. 8.—Reduction of the fracture shown in Figure 7, by the open method; alignment not perfect, but improved by splints and compresses.

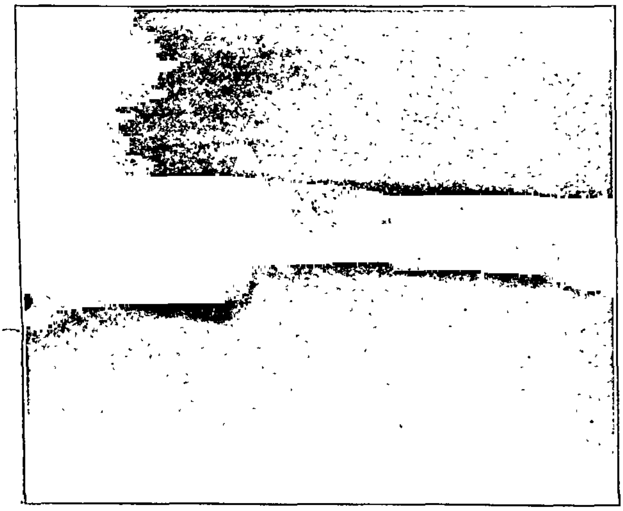

Fig. 9.—Fracture of upper third of left femur. Three unsuccessful attempts were made to reduce this fracture by the closed method (Case 4).

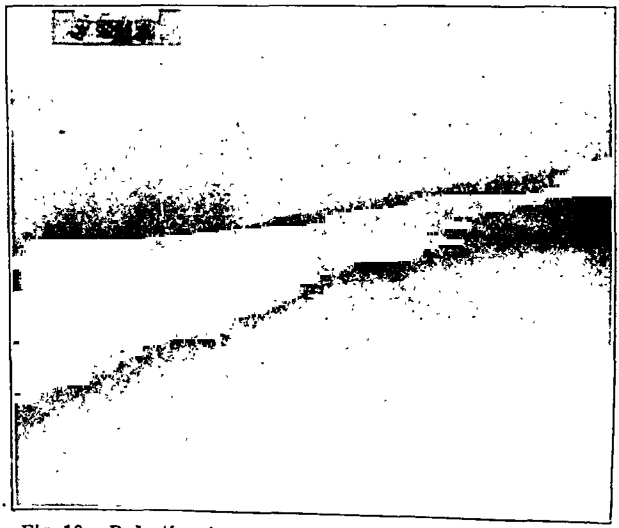

Fig. 10.—Reduction, by open method, of fracture shown in Figure 9, showing perfect alignment.

reduction. Reduction and alignment are shown by radiograph to be almost anatomic (Fig. 10). Convalescence was uneventful. Union occurred by first intention. There was no shortening.

Case 5.—Man, aged 32. Comminuted fracture of left humerus, with marked displacement (Fig. 11). There was a large hematoma extending into the axilla and on the chest anteriorly and posteriorly. Operation was done nine days after the injury. I considered it safe to wait until the tissues had gained some resistance. Several fragments of bone were removed at the operation. Their absence is well shown in the radiograph (Fig. 12). Convalescence was uneventful. Union by first intention took place. The patient undressed and dressed himself without assistance thirty-two days after the operation.

Case 6.—Boy, aged 18. Compound comminuted fracture of the left humerus, caused by passage of two wheels of a loaded coal wagon (7,450 pounds) over the member. Operation was performed two days after the injury. The patient traveled 150 miles from an inaccessible part of the state. The comminuted fragments were removed. The extensor muscles of the arm were severed by the crushing force of the wheels. The musculospiral nerve was tucked into the lower segment of the triceps. There was no infection of wound, which healed kindly as soon as the devitalized soft parts separated. Alignment is well shown in the radiograph (Fig. 13). There was some paresis of the flexors and extensors of the forearm, but at the time of the last report (nine weeks after the injury) power was rapidly returning.

1723 Tremont Place.

A METHOD OF TONSILLECTOMY BY MEANS OF A GUILLOTINE AND THE ALVEOLAR EMINENCE OF THE MANDIBLE

GREENFIELD SLUDER, M.D.
Clinical Professor for Diseases of the Nose and Throat, Medical Department of Washington University
ST. LOUIS

I wish to describe a method of tonsillectomy which, so far as I can learn, has not heretofore been described or used. The essential and distinctive feature of this method is the fact that it moves the tonsil completely out of its normal bed in the forward and upward direction and then utilizes one of the anatomic markings of the lower jaw as a vantage-point in putting it through the aperture of the guillotine. This anatomic marking is the well-defined eminence just above the mylohyoid line, produced by the last-formed molar tooth in its socket (Fig. 1, a, Fig. 2, I, a, Fig. 2, II, a), which is rendered even more prominent in the mouth by the tissues of the gum. In childhood the posterior, unformed molar as it lies imbedded in the alveolus helps to make the eminence (Fig. 2, II, a). This marking has not been given a name in any of the treatises on anatomy. I have taken the liberty of naming it "the alveolar eminence of the mandible," in order to facilitate the description of this procedure.

The instrument used (Fig. 3, I and 3, II) is a modification of what I have nearly always heard called the "Mackenzie guillotine"; but it occasionally has been called the "English guillotine" to distinguish it from the "Mathieu" or "French guillotine." Sir Morell Mackenzie,[1] however, relates that the instrument which nowadays bears his name is a modification of the one described by Dr. Physick[2] of Philadelphia in 1827, the difference being that he (Mackenzie) made the handle reversible, so that it could be applied to either side of the shaft. In this way he facilitated its use by surgeons who used the one hand for removing both tonsils. He also narrates that Dr. W. B. Fahnestock[3] of Lancaster, Pa., in 1832, first described the modification which consists of a circular aperture and a transfixing needle, with a ring knife to cut on the pull (the "French guillotine") and that Guersant[4] in 1864 changed the shape to an ellipse and at the suggestion of Velpeau added the elevating prongs. He furthermore states that the guillotine idea was first published

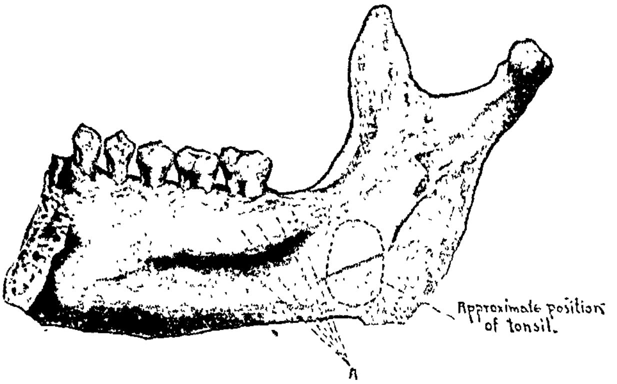

Fig. 1.—Inner surface of the right half of the mandible, showing the alveolar eminence, A, and its relation to the usual position of the tonsil.

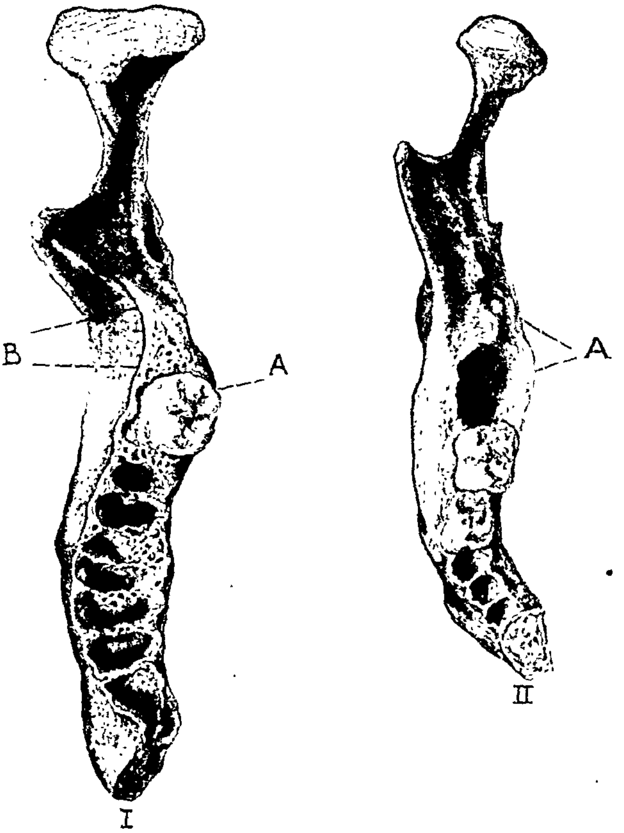

Fig. 2.—I. Right half of a mature mandible seen from above, showing alveolar eminence, A, with fully cut third molar and buccinator ridge B. II. Right half of young mandible seen from above, showing uncut third molar and the part it takes in the formation of the alveolar eminence A.

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[1] Mackenzie, Morell: Diseases of the Pharynx, Larynx and Trachea, New York, Wm. Wood & Co., 1880.

[2] Physick: Am. Jour. Med. Sc., i, 262. Quoted by Mackenzie.

[3] Fahnestock, W. B.: Am. Jour. Med. Sc., xi, 248. Quoted by Mackenzie.

[4] Guersant: Hypertrophie des amygdales, Paris, 1864. Quoted by Mackenzie.

by Dr. Benjamin Bell[5] in 1783 in his description of the uvulatomes used in England in the latter part of the eighteenth century.

The guillotine which I use (Fig. 3, I and II) is therefore a modification of that of Dr. Physick, which consisted of a shaft of metal with a circular aperture at its distal end through which the tonsil was inserted, and cut through by a blade pushed across the aperture. I have altered the original model in order to accomplish two definite objects: (1) to get greater strength in the instrument; and (2), to increase the leverage employed in its use. These are attained (1), by doubling the thickness of the shaft; and (2), by shortening its length, and making the handle longer. I greatly prefer an elliptical aperture. The usual model of Dr. Physick's guillotine at present to be found in the instrument shops is the Mackenzie modification, which has a round aperture. In a few shops in the United States it has been made with an elliptical aperture the long axis of which is transverse to that of the shaft.

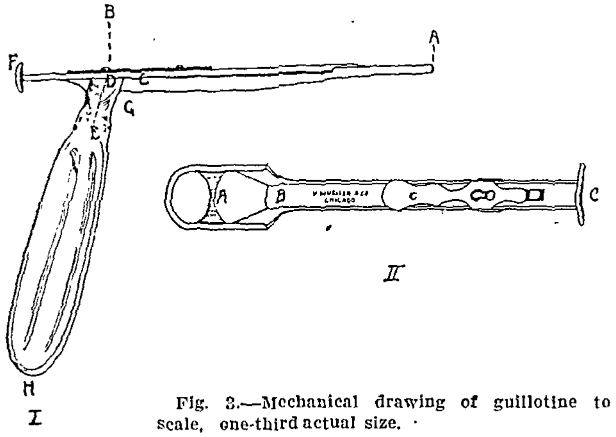

Fig. 3.—Mechanical drawing of guillotine to scale, one-third actual size.

In this operation a correct instrument is of very great importance. I believe it to be of far greater importance than is usually the case in surgical procedures. For this reason I feel that an accurate description ought to accompany its pictures.

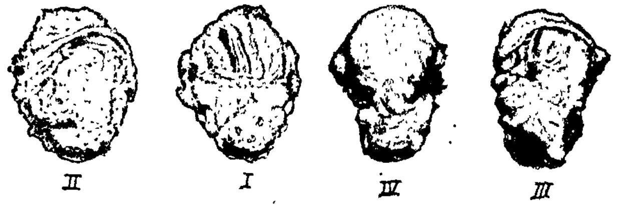

Fig. 4.—Tonsil removed from young adult: I, internal surface as it appears while still in the grasp of the guillotine, having the appearance of being turned inside out; II, same tonsil, external surface, with the capsule invaginated; III, internal surface after its parts have been replaced; IV, external surface after capsule has been replaced.

DESCRIPTION OF THE GUILLOTINE

(In the following use of terms I assume that the surgeon is holding the instrument, with its aperture from him). It is made entirely of metal. It measures 13. cm. from *A* to *B* (Fig. 3, I) which is from 2 to 4 cm. shorter than the models usually found for sale. The angle at which the shaft and handle join, *C, D, E,* is 115°. This is the most comfortable position for the handle in the surgeon's hand; and sacrifices almost none of its leverage. The handle should be large and rough, measuring 11.5 cm. from its free end *H* to its junction with the shaft *G*;and should be of a shape that is comfortable in the grasp, thus facilitating the use of strength. The shaft is thin, 3 mm., at its distal end where the aperture is cut; but is reinforced on the handle side, proximal to the aperture, by another piece of steel of the same or greater thickness, they being welded together and the handle attached to these. Special attention should be paid to details in order to make the instrument as strong as possible, such as putting a bolt through the full length of the handle in addition to its being welded to the shaft. Its strength should be so great that the shaft cannot be bent or the handle broken off by the power of an ordinary man. The blade is 2.5 mm. thick. Its proximal end, *F*, when closed (Fig. 3, I, is drawn with the blade open) should extend 2.5 cm. beyond the distal side of the handle at its attachment to the shaft *G*. Its cutting edge should be made dull for the reason that it will then readily follow in the connective tissue between the capsule of the tonsil and the constrictor of the pharynx on which it lies, whereas a sharp edge easily cuts through the tonsil or the constrictor. Less bleeding follows from the wound of a dull blade, which is an additional advantage. The edge should be made by grinding the blade 2.25 cm. *back* (Fig. 3, II, *A*, *B*), because by so thinning the cutting end of the blade the field of operation is made wider, as will be shown later. The proximal end of the blade is provided with a cross-bar *F*, which should be comfortable under the thumb so as to permit of great pressure without hurting the surgeon's hand. A ring may be substituted for the cross-bar and the surgeon's thumb inserted through it. The assumed advantage in this is that, in case he should not apply the instrument perfectly, he could readily withdraw the blade by means of his thumb without removing the instrument from its position, and immediately push it down again. This might be repeated until he had the tonsil properly through the aperture, with small loss of time; but he soon learns to do this with the cross-bar too, so at present my feeling is that this must be a matter of individual choice.

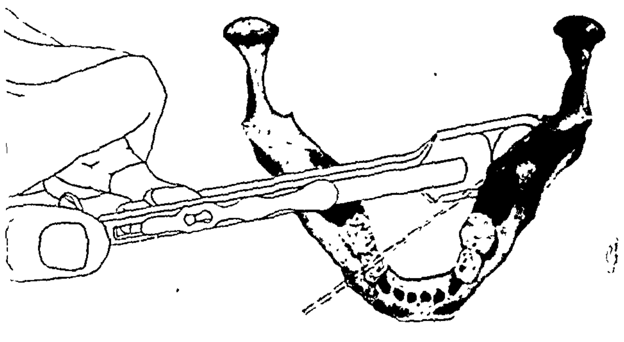

Fig. 5.—A young jaw showing guillotine in position. The dotted lines show the usual position of guillotine for mature jaws.

The blade must slide to and fro with the least possible friction. The aperture is elliptical, with its long axis transverse to that of the shaft. Its distal arc should be lined around with a soft metal into which the dull blade may be forced in the act of cutting through the tissues. The surgeon should have two guillotines, one with an aperture 2.5 cm. by 1.8 cm., the other 1.75 cm. by 1.5 cm. The two instruments should be alike in every measurement except the distal part of the shaft which bears the aperture; the two should be of the same great strength. If the shaft is not strong enough it will be bent slightly in the act of operating and then the blade will not slide with the ease that is required of this instrument. If the handle is not securely attached to the shaft it will be broken off during the operation.

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[5] Bell, Benjamin: System of Surgery, 1783, iv, 144, Plate 52, Fig. 1. Quoted by Mackenzie.

ANATOMIC RELATIONS

In the following use of terms indicating direction I assume the body of the patient to be erect and facing the surgeon. I have already mentioned that one of the essential and distinctive features of this method is the utilization of the alveolar eminence of the mandible in manipulating the tonsil. I have also stated that this eminence is made by the internal ending of the alveolus, with the gum covering it.

It should be remembered that the tonsil lies posterior to and for the most part below the eminence, in childhood appearing much further back and much lower than in maturity. This arises from the fact that an uncut tooth is in the alveolus posterior to the one showing through the gum membrane, causing a greater elevation at this site and making it seem that the teeth are much further forward, and the tonsil lower. In cases of great enlargement of the tonsil more of it will lie even with or a part may possibly lie above the eminence. It will also extend forward, approaching the eminence from behind.

The surface of the jaw-bone posterior to and below the eminence slants downward, backward and outward at an angle that may vary considerably, but is approximately 45°—that is 45° downward and outward from the transverse, and at the same time 45° outward and backward from the anteroposterior axis. This slant arises in large part from the fact that the alveolar arch as it proceeds backward tilts more and more inward from the body of the jaw. Its posterior end faces inward as well as upward (Fig. 2, I *A*). Looking backward or downward it is seen that the ending of the alveolus lies completely internal to the line of the buccinator ridge were it prolonged as it descends on the coronoid process (Fig. 2, I *B*); and the impression thus given is that this line when carried downward represents the jaw proper and that the end of the alveolus lies internal to it. This is shown better on mature jaws. This slant is crossed by the mylohyoid line, which is well marked in maturity. On young jaws this surface is more nearly smooth, although that marking is always to be seen.

The angle of this slant is subject to considerable variation because the relation of the breadth of the alveolus to the height of the horizontal portion of the jaw (alveolus and body together) varies very much according to age. The breadth of the alveolus in the young is actually wider (3 mm. sometimes) than that of the adult. This is true for two reasons: (1) that in the young, these alveolar dimensions are made by the crown of the molar, whereas in maturity they are made by its neck: (2) that although the tooth may be through, the bone surrounding it has not yet been absorbed to the extent that it is in maturity. On the other hand the height of the horizontal portion in maturity is twice that of early life, for the reasons that the young jaw consists largely of alveolus, and that the body is added to it only by development with the years. For these reasons the angle of the slant in young jaws may rise to even more than 60° outward and backward from the anteroposterior axis (Fig. 5), and to even more than 60° downward and outward from the transverse; while in maturity these angles may be less than 45° in one or both directions. The alveolar eminence is therefore very much more prominent in the young, despite the fact that the inward tilting of the alveolus is greater in maturity than in early life. The edentulous jaw need scarce be considered in this connection, because the operation in question is rarely needed by the aged. Anatomically, however, it is usually marked by a very heavy mylohyoid line which, since the absorption of the alveolus, lies near the upper margin of the body which alone remains. There is usually a trace of the alveolar eminence still to be observed.

These differences may be accurately estimated in the living by introducing the index-finger into the patient's mouth, downward, outward and backward from the alveolar eminence pushing the soft tissues aside as far as may be necessary. It is distinctly advantageous to make this estimate just before operating in order that the direction of the guillotine may be varied to suit that individual's requirements. The buccinator ridge is frequently helpful in making this estimate.

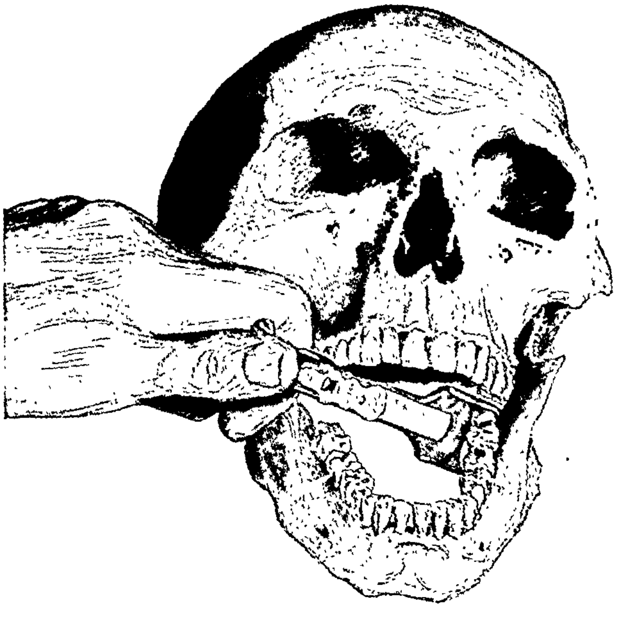


Fig. 6.—The guillotine in position, showing its general relationship to the bones.

THE OPERATION

In order to use the alveolar eminence of the mandible as a vantage-point from which to manipulate the tonsil—that is, to use this prominence to put or help to put the tonsil through the aperture of the guillotine—it is necessary to move it completely from its normal position which is posterior to and below the eminence (see above). It must be moved forward and upward. The elasticity of the soft parts of the throat readily allow the necessary movement. In this way the tonsil will be moved out of a hollow, soft, moving bed and be brought up on to a motionless, hard hump—a solid, fixed, somewhat hemispherical convexity.

Under these altered conditions it is not difficult to place the blade of the guillotine at its base. The eminence is then sometimes found to be all that is required to hold it for a perfect adjustment of the instrument, which is done by pressing it against the bone. The prominence of the eminence then stuffs the tonsil through the aperture. Often, however, in operating, especially with a large, flat (thin) imbedded tonsil, it is necessary to use the tip of the index-finger of the other hand to put the final bit through. If it be soft in addition to these qualities, the difficulty is increased to the fullest possibility. A firm tonsil is manipulated without difficulty, regardless of size or imbedding, provided it be not too thin (flat). Should it be soft, large, flat (thin) and imbedded, great care and some dexterity must be exercised in order to secure it entire.

Under these conditions the surgeon will find sometimes that he has removed only the central portion of the capsule with tonsil tissue surrounding it. A little more familiarity with the method and possibly a little greater dexterity in managing the instrument will usually permit him to secure it entire. (I can, however, picture to myself a tonsil that is so soft, thin and spread out that it could not be removed entire with one stroke, despite all the care and dexterity that might be exercised; but it must needs be rare.)

Under conditions presenting difficulties a perfectly satisfactory guillotine is indispensable. Precise knowledge of the topography and all the variations is necessary at all times.

THE OPERATIVE PROCEDURE

The use of this type of instrument, so far as I am able to learn, has always been by preference with the smooth (proximal) side of the blade applied to the tonsil. Mackenzie[1] made his modification with its detachable and reversible handle that this might be done more readily (see above). Its method of use was, that it was inserted into the mouth in an anteroposterior direction and the aperture put over that part of the tonsil which protruded beyond its surroundings into the cavity of the throat. The blade was then pushed across, cutting off that portion.

With my method one must approach the tonsil at an angle, approximately 45°, which requires the shaft of the instrument to cross the mouth entirely from the opposite side. This necessitates the distal side of the shaft being applied to the tonsil. It at the same time has the great advantage of leaving the lateral portion of field of operation wide open for view and the use of the fingers of the other hand. Having the blade ground far back widens it further. (The use of the proximal side will be found exceedingly awkward or even impossible as the surgeon's hands are interfered with and the lateral portion of the field of operation covered from view.)

It is a very great advantage to operate on the right tonsil by holding the guillotine in the right hand and on the left tonsil by holding it in the left hand. If the surgeon can use only one hand, the position of the patient should be recumbent. Assuming that he uses his right hand for both tonsils and stands on the patient's right: for the right one he faces the patient's head; but for the left one he must turn around so that he faces the patient's feet, and stand somewhat beyond (above) his head. (These relations might be sustained in the erect posture also.) The head should be held firmly by an assistant to prevent rotation, and the mouth kept fully open by a gag.

Regardless of what may be the position of the patient's head, the surgeon takes his bearings from the lower jaw. The guillotine, with the transverse axis of the aperture vertical, is introduced into the mouth at an angle of 45° outward and backward, passing back until the distal arc of the aperture is completely behind the tonsil. The direction of the shaft is then changed to point downward in order to get the ring of the aperture under the lowermost part of the tonsil. The instrument at this moment may sometimes to advantage be rotated slightly by turning the handle downward (toward the feet). This tends to enlarge the field of vision. It is then pressed outward until the distal arc of the aperture has been pressed against the ramus of the jaw, or, in case the patient is not anesthetized, against the firmly contracted internal pterygoid muscle which is inserted here. It is now brought slightly forward and upward, but held firmly against the bone and muscle, when it will be seen that the lower distal arc of the aperture has acted very much like a scoop, having secured the lower part of the tonsil and brought it forward and upward into the neighborhood of the alveolar eminence. In case the shaft has been rotated to secure its lower part, it is now put back into its original position by turning the handle upward. The upper portion of the tonsil is usually put into the grasp of the distal arc of the aperture by this rotation. If the tonsil is not too large and flat (thin) it is usually secured, both lower and upper portions, in the first setting of the guillotine and no rotation is needed. The distal arc of the aperture is now firmly held behind the posterior border of the tonsil and the instrument drawn forward and upward at an angle approximately 45°, which will be found to have pulled it upward and forward onto the eminence of the alveolus. The blade is now pushed down with the gentlest possible pressure until the surgeon sees that it is in contact with the tissues. It should not be pressed forcibly until the parts are engaged satisfactorily in the aperture. The blade, being in contact with the tissues, prevents the portion of tonsil which has gone through from slipping out again.

At this moment the surgeon may perceive that although the distal arc of the aperture is entirely behind and external to the tonsil, a part of its anterior portion has still not gone through. This is usually readily seen, but may be more definitely determined by feeling with the tip of the index-finger of the other hand; and at the same time it may be pushed through. This is done by the gentlest massage—simply stroking it in the direction of the aperture with the ball of the index-finger and, at the same time, pushing the blade very gently across the remaining portion of the aperture. When the last of the anterior portion has gone through it may be readily seen as a rule; but may be determined with great accuracy by feeling with the ball of the index-finger—passing it up and down over the end of the blade as it closes the aperture. If all of the tonsil has gone through, the distal arc will be felt smooth and firm and to be covered by what seems to be a thick mucous membrane. (It is of course two layers of membrane.) If a part of the tonsil has not gone through, it can easily be felt and recognized as a mass of tissue harder than membrane and usually irregular.

All of the tonsil having gone through, the blade is now pushed across with all the power of the surgeon's hands. Great pressure is usually required because the blade has been made dull. If it be too dull or if it does not fit perfectly into the soft metal lining of the distal arc of the aperture, it will not cut altogether through. The instrument must then be pulled forward a little and its end be stripped off with the finger of the other hand. This does not delay the operation. It may possibly make a little more subsequent pain; but I am by no means sure that it does.

On examination of the extirpated tonsil while it is still held in the grasp of the instrument—that is, just as it comes from the patient's mouth—it will be seen that its surface which was exposed in the throat has the appearance of having been turned inside out (Fig. 4,I). On loosening it from the instrument it is seen that its capsule side—its lateral surface—bears further proof of this fact. The capsule appears completely invaginated (Fig. 4, II); but it can be readily replaced—that is, turned over into its original relations, thereby restoring the tonsil to its customary appearance, as it is in the throat (Fig. 4, III), covered on its lateral, convex aspect by the capsule (Fig. 4, IV). This phenomenon is readily explicable when one remembers that it was brought up on to the eminence to have the ring of the guillotine, as it were, stuffed down over it, converting its convex bed into a concave one at the time of cutting. Further examination of the specimen reveals that a little of the free edge of the anterior pillar, including a few fibers of the palatoglossus muscle, is attached to it. I always remove this bit of the anterior pillar with the tonsil because it leaves a more open wound and a more open fossa when healed. There seems to be no surgical reason against it; on the contrary, it makes the tension of the scar begin at a point anterior to and below what would otherwise be the case, which tends to draw the palate forward and downward. In cases in which the tonsil is to be removed because of Eustachian tube irritation this seems to me to be advantageous. In operating under general anesthesia I prefer to have the pharyngeal reflex present. I much prefer to have the aperture fit rather snugly over the tonsil.

This method will be found to be satisfactory under all usual conditions, provided the variations in the jaws of different ages are borne in mind. For the young jaw the angle of the instrument must sometimes be increased to even more than 60° outward and backward and to even more than 60° downward and outward. It does not require grasping the tonsil in a vulsellum and pulling it out. The imbedded tonsil is usually removed as easily and as quickly as the protruding one (see above). No loosening of the pillars is required, because I prefer to take a little of the anterior one. Familiarity with the method will enable the surgeon to remove a tonsil in its capsule complete in from five to eight seconds. I think that the shock from this method is less than from the longer operations.

Stumps of tonsils left from previous operations are usually as easily removed as the original tonsils.

3542 Washington Avenue.

Intestinal Sutures.—The evolution of the intestinal suture has brought us to the point where we are certain of good results when the sutures are properly applied and are of the right material. Non-absorbable suture material should be cast off into the lumen of the intestine after serving its period of usefulness. This is best accomplished when used for the inner layer. There is also less destruction of tissue. When placed externally it promotes unnecessary adhesions, plastic exudate and fibrous bands, and may interfere with the proper bowel function because of its prolonged irritation. Absorbable suture material used for the outer layer is soon taken care of, and does not cripple the action of the intestine. The suture in intestinal work must control hemorrhage, secure proper coaptation of the tissues, prevent leakage, avoid pursing, be quickly introduced and must not strangulate the tissue. The back lockstitch of Pagenstecher's thread serves all these purposes. Experimental work has demonstrated that chromic catgut when employed as the outer suture lasts sufficiently long for positive and firm union to occur.—A. E. Benjamin, in the *Lancet-Clinic*

LIPOMATOSIS OF THE LOWER EXTREMITIES WITH REPORT OF A CASE

W. R. MacAUSLAND, M.D.
Orthopedic Surgeon, Carney Hospital
AND
B. E. WOOD, M.D.
Assistant Orthopedic Surgeon, Carney Hospital
BOSTON

This case of lipomatosis of the lower extremities is reported on account of its rarity. Its steady progression suggested a malignant process. No literature is found bearing on this subject.

Patient.—R. R., a girl aged 10, was seen in consultation with Dr. B. L. Dwinell of Taunton, Mass., Dec. 8, 1907. She had suffered since birth with slowly progressing deformity of feet. The family history was negative. "Both feet at birth were shaped like animals' feet, and much larger than normal in proportion to the body; weight at birth, 4½ pounds. Patient had on left side a peculiar mark which looked like an old burn: otherwise had been normal and healthy. The patient's mother was not as well as usual when carrying the child, and had a great deal of pain at night. At the age of 6 months, the child's toes were amputated. At this age the feet were noted to be growing faster than the rest of the body. At the age of 10, patient weighed 70 pounds. From this time on the left leg, especially, grew very fast. The mental development of the child had been excellent. She walked and ran like the other children, but tired very easily. Feet sounded not unlike elephant's feet when walking." Double amputation had been advised.

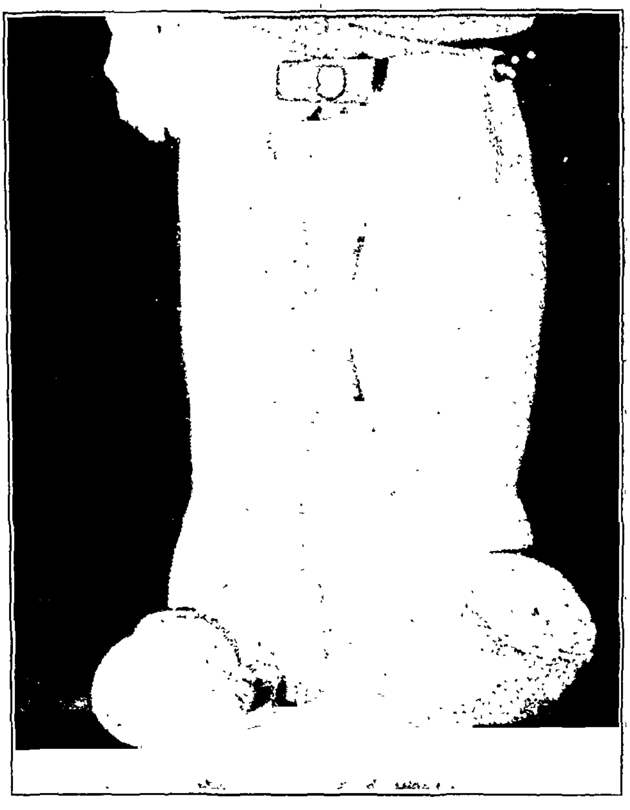


Fig. 1.—Lipomatosis of feet and legs; front view.

Examination.—General condition fair. Patient was thin and had a peaked expression; seemed active and well; pulse slightly rapid at the time of examination. Running down the left arm and leg was a crusty, eczematous lesion, not progressive. The left foot was larger than the right, but both feet were markedly enlarged and lobular in character, the swelling involving the whole of both feet. The same lobulation extended up to the knee, but was there less marked than in the feet. Masses the size of two fists stood out on the left calf. These were not adherent, and could be easily picked up. There was a pad of fat about 4 inches thick on the left foot. The dorsum of the foot was probably five or six times the normal in circumference. Examination of heart, lungs, and abdomen were negative. Urinalysis was negative.

The patient had not been seen for about two months prior to this date, Feb. 16, 1908, during which time the legs rapidly increased in size. A consultation was held with Dr. E. G. Brackett, and we advised conservative operative treatment before amputation was done.

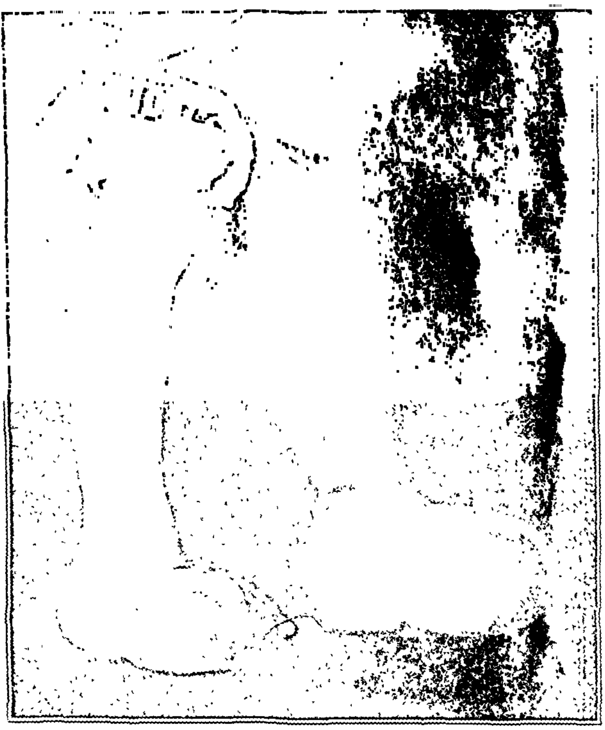


Fig. 2.—Lipomatosis of feet and legs; lateral view.

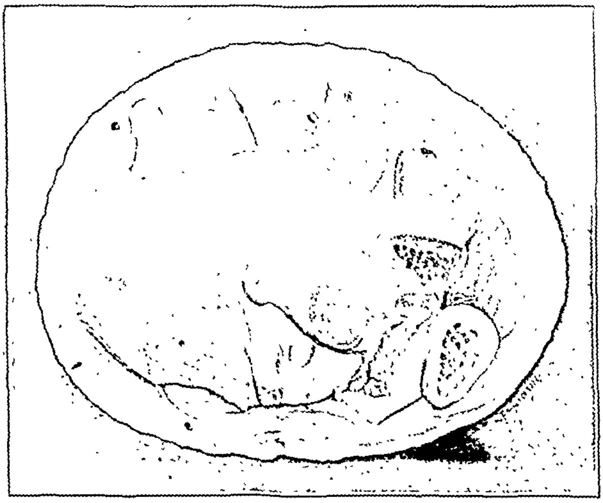


Fig. 3.—Cross-section of amputated left foot.

Feb. 29, 1908: Radiograph of left foot, and also photographs were taken (Figs. 1 and 2).

Operations.—March 30, 1908, ether was given and operation performed. An incision running from the tibial tubercle on the outer side of the left leg was made down to the ankle-joint. Masses of fat, encapsulated and running between and into the muscles, were dissected out. Some were easily taken out by blunt dissection, while others seemed a part of the muscle substance. The muscle was pale and there was considerable fatty tissue between the fibers. The operation lasted three hours. The wound was closed with silkworm gut and a slight drain left. Recovery from the ether was poor. Patient had an elevation of temperature for three days, and then became normal. There was considerable shock. The convalescence was otherwise uneventful.

April 20, 1908: Under ether a similar operation was done on the right leg. As much of the fatty tissue as possible was dissected out. The wound was drained. There was some sloughing of the skin flaps. Convalescence was otherwise uneventful.

May 17, 1908: Results from previous operations were good; still there was a large amount of fat on the feet; patient was gaining in weight.

Oct. 11, 1908: A second operation was done on the right foot. A large amount of fat was dissected from plantar surface of the foot. Patient made a very poor recovery from the ether. On the second day she had a pulse of 160 and temperature of 103 F., but under treatment recovered.

The skin flaps in these operations even under hot towels grew cold. Sloughing of the flaps occurred after each operation. Following each of these three operations the patient suffered shock, although the last operation lasted only about one and one-fourth hours. The patient's general condition seemed poorer each time, and there was a very marked increase in weight throughout the whole body, but especially in the abdomen.

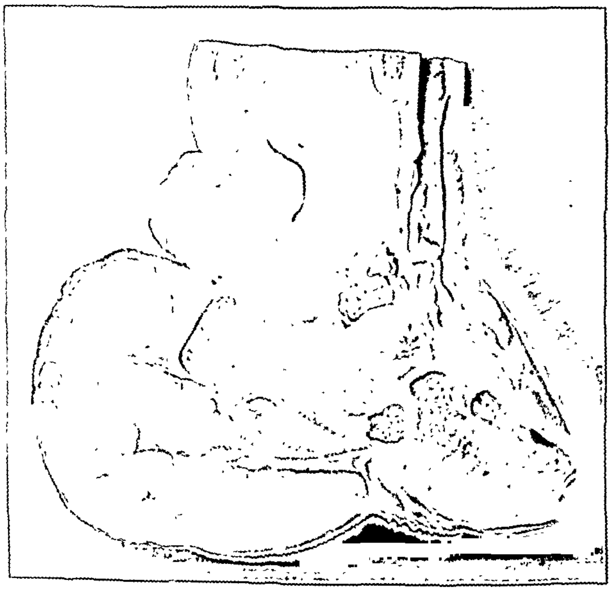


Fig. 4.—Longitudinal section of amputated left foot and leg. Note the lobular fatty deposits and fatty infiltration and degeneration of muscular tissue.

The patient now weighed 137 pounds at the age of 12. It seemed as though she would not be able to withstand more operations. The confinement to the house told on her general condition. The right leg, while not normal, was about one-half the size that it was previous to the operations. The left leg, not having been controlled by operation, had continued to grow. Amputation of the left leg was therefore advised. Dr Dwinell of Taunton was seen in consultation.

March, 1910, under ether, a regular amputation of the left leg was done at the point of election; silkworm gut sutures were used. There was a good recovery from the ether.

The general condition of patient has been materially better since this operation. She now walks about well with crutches, while awaiting an artificial limb. The right foot has ceased to grow.

Vertical and cross sections of the amputated foot, natural size, are shown in Figures 3 and 4.

411 Marlborough Street.

ANGIOSARCOMA OF THE LIVER IN AN INFANT

JULIUS BONDY, M.D.
NEW YORK

Case.—Baby N., born April 10, 1910; male, second child.

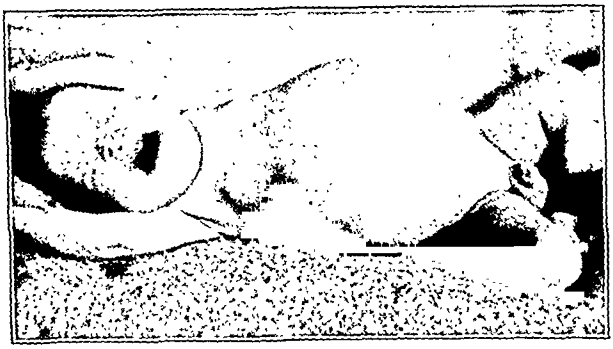
Family History.—The history of the father and mother, as well as that of the grandparents on either side, showed absolutely no record of malignant growths. The mother's age was 28; that of the father 32.

Past History.—The child was delivered instrumentally, due to *inertia uteri.* It had no deformities and seemed to grow normally until the third week.

Present History.—Three weeks after the birth of the child, while the mother was bathing it, she noticed that the child's abdomen was somewhat protuberant. One week later the child was brought to me for this reason alone. No other symptoms of disease had been noticed; the local condition was evidently as yet causing the child no inconvenience. The stools were normal and digestion good. The child was breast-fed.

Examination.—The child was somewhat pale and languid. The head and neck were normal; there was no glandular enlargement. The apex of the heart was in the fourth intercostal space, in the nipple line; no murmurs were heard. Lungs were normal. No deformities of either extremities.

The abdomen was markedly protuberant, especially in the upper right hand quadrant, and dilated veins were perceptible over the liver region. The circumference of the abdomen was eighteen inches at a point one and a half inches below the costal border. Percussion gave a flat sound over the upper three-quarters of the abdomen. On palpation, an indistinct mass was felt filling both sides of the upper abdomen. The surface of the mass was smooth and the edge was distinctly palpable below the umbilicus. This mass could not be definitely connected with any organ.



Enlargement of abdomen from angio-sarcoma of liver in an infant aged 3½ months.

Exploratory Operation and Findings.—The case was referred to Dr. Henry Roth, attending surgeon to Lebanon Hospital, and he performed an exploratory laparotomy over the mass in the median line, which showed the tumor to be an enormously enlarged liver, filling three-quarters of the abdominal cavity. The liver was dark brown in color and mottled with small blue areas averaging one centimeter in diameter. Its surface was smooth. The spleen and kidneys were not enlarged, nor was there any apparent invasion of any other abdominal organ.

A small section of the liver was removed from the upper surface for microscopical examination and the abdomen closed. The child made an uneventful recovery from the operation. Following the operation, the child's girth progressively increased, until, just before its death, at the age of 3½ months, it measured twenty-nine inches at the umbilicus.

The extremities became edematous, but at no time was there ascites or jaundice. Diarrhea finally set in and the child died of exhaustion. No autopsy was permitted, although strenuous efforts were made to obtain it.

The section of liver removed at the time of operation was sent to Dr. Eugene P. Bernstein, pathologist to Lebanon Hospital, who reported it to be angiosarcoma.

This case is reported because of its extreme rarity and the difficulty of making an accurate diagnosis. On reviewing the literature, I find that Arnold[1] reports two cases. The first of these was in a boy of 15 years, and the second in a man of 53 years. Both died in a short space of time, and the diagnosis was apparently made at autopsy. Arnold, after reviewing several cases of malignant disease of the liver, comes to the conclusion that several of these cases strongly resemble angiosarcoma of the liver. Dervaux[2] reports a case of angiosarcoma of the liver, secondary to sarcoma of the testis.

The chief features in my case are, first, the early period of life at which the tumor started (possibly during gestation); second, the rapid increase in abdominal girth; third, the early death of the infant; and last, the paucity of symptoms noticeable until just before death.

1266 Boston Road.

A SIMPLE APPARATUS FOR PROCTOCLYSIS

PERCIVAL NICHOLSON, M.D.
ARDMORE, PA.

Not knowing whether any one has been using a similar apparatus, but not having seen anything like it mentioned in the medical journals, I wish to describe a simple apparatus which I put into use in the Presbyterian Hospital in Philadelphia in 1910, which fulfils all the requirements for carrying out the drop method of proctocylsis.[3]

It is simplicity itself, the requisites being a glass cylinder of 4 oz. capacity, drawn out at the end to carry rubber tubing; a No. 7 rubber stopper with a hole in the middle to carry a pipette, and another hole in the side for an air vent; a Moore pinch-cock, and a proctoclysis nozzle.

To apply the apparatus simply take an ordinary fountain syringe, found in any household, cut the tubing about three inches below the bag, put the pinch-cock on the short tube thus formed and shut it off tight about 1½ inches from the bag. Now run the short end of the tube over the pipette, securing it with a ligature. To the lower end of the glass cylinder attach the remaining rubber tubing, and in place of the ordinary irrigation nozzle apply a hard rubber proctoclysis nozzle. Then fill the bag with normal salt solution and run the lower end of the tubing between two hot water bags. The illustration shows the entire apparatus assembled and the bag filled with salt solution (which is well to have warm, though that is not of great importance). A short distance from the nozzle the rubber tubing is carried between two hot water bags partially filled with water at about 150 to 175 F. Clinically it has been found that the salt solution, passing, as it does, a drop at a time between the two hot water bags, is thus heated to the proper temperature before entering the rectum. The temperature of the solution in the douche bag is not of much importance, as it will be cooled in dropping into the cylinder. Both hot water bags are surrounded by a blanket which acts both in retaining the heat and in protecting the patient's skin from burning.

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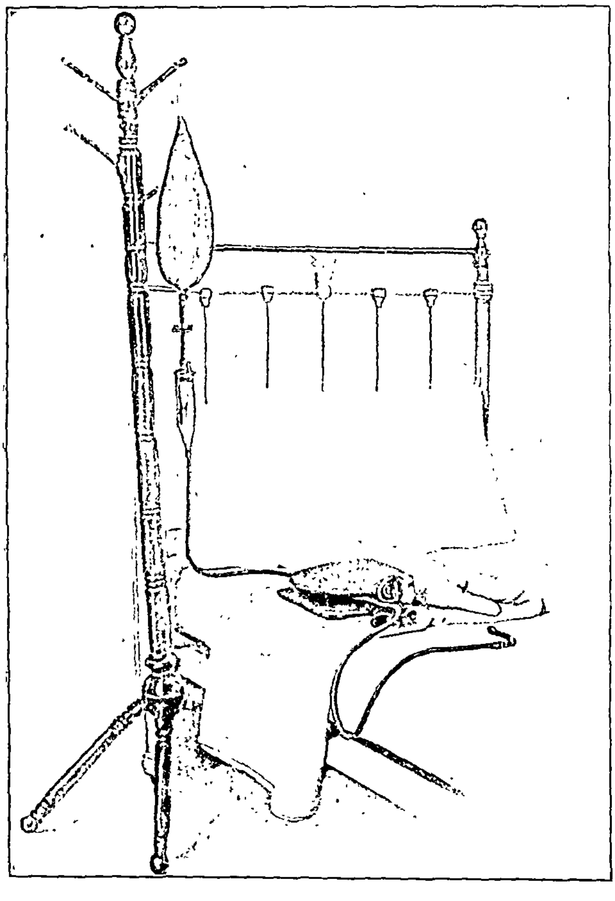
[1] Beitr. z. path. anat., 1890, viii, 123.

[2] Journal de sc. méd. de Lille, 1902, xxv, 131.

[3] Since the above was written there has appeared in Surgery, Gynecology and Obstetrics an article by Dr. W. A. Dewitt of Philadelphia describing the same apparatus, with a slight modification, leaving it to be inferred that it was original with him. Dr. W. A. Dewitt was a resident in the Presbyterian Hospital in Philadelphia at the time I introduced and first put in operation the apparatus described above, with the origination of which he had nothing whatever to do.

Having set up the apparatus, loosen the pinch-cock until the solution drops from the pipette at the rate desired; then introduce the nozzle just within the sphincter. It will be noticed that an important feature of this apparatus is that its operation is always capable of inspection.

Should the nozzle become blocked, a rise of fluid in the cylinder will be noticed, and by shutting the pinch-cock and removing the rubber tube from the lower end of the glass cylinder a small quantity of salt solution can be forced by means of any syringe through the lower tube and thus clear the opening in the nozzle without removing it from the rectum; then by reattaching the tube to the glass cylinder and opening pinch-cock the flow is reestablished.



Illustrating parts of proctoclysis apparatus assembled ready for use.

As only the contents of the small glass cylinder and the small column of water in the tube press on the bowel, the bag can be raised to almost any height desired without causing expulsion of fluid alongside the nozzle; but the best results are attained when a moderate elevation of from two to three feet is maintained.

This apparatus has been in use for over one year with marked success, and its simplicity admits of its use in general practice as well as in hospitals, as it is inexpensive, efficient and cleanly, all parts being capable of sterilization.

Attractive Diet in Neurasthenia.—In order that a diet may be available, it must be palatable, and especially is this the case in dealing with neurasthenics.—D. N. Paton in the *Practitioner.*

A NEW METHOD FOR APPLYING PLASTE JACKETS IN HYPEREXTENSION *

PERCY WILLARD ROBERTS, M.D.
Assistant Orthopedic Surgeon, City Children's Hospital; Clinica Assistant, Hospital for Ruptured and Crippled; Instructor in Orthopedic Surgery, Post-Graduate Hospital; Instructor in Orthopedic Surgery, Cornell University Medical College
NEW YORK

There seems to be little diversity of opinion as to th theoretically simple mechanical problem involved i treatment of Pott's disease. The object is to support a upright column which has become weakened at one poin and either bends or threatens to bend, and at the sam time to abolish or minimize friction on the articula surfaces of the diseased vertebral body, thereby lessenin the likelihood of deformity and giving Nature opportunity to limit the lesion and to effect a cure. In dealin with the flexible spine there is but one way to accomplis this, and that is by throwing the burden of weight-bearing on the articular processes—in other words, t put the spine in a position of hyperextension. Thi would seem simple enough, and yet the study of a larg number of hospital cases forces the conviction that it i seldom achieved by present methods. There are variou roads to the end sought. One may choose the spina brace, the gas-pipe frame or the plaster jacket, but it i the last of the three that will here be considered, fo the jacket has many advantages in hospital and dispensary practice.

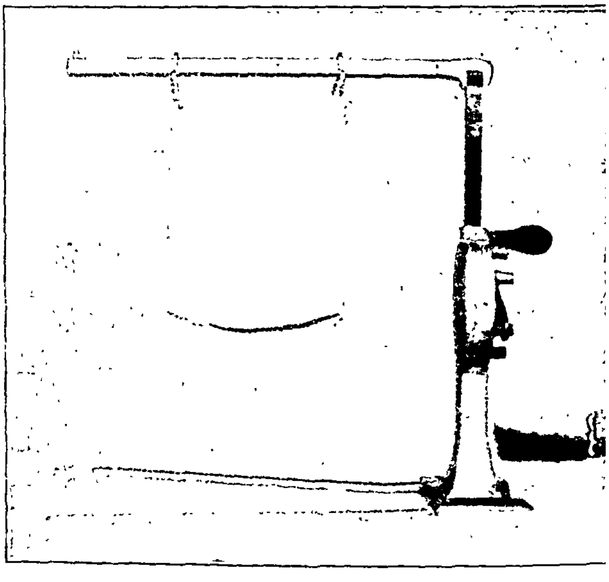


Fig. 1.—Roberts' jacket and sling.

Except in certain localities, notably Boston and Baltimore, it is the custom to apply plaster by the Sayr suspension apparatus or some modification of it, an this of itself is eloquent testimony of the value of a method which has undergone so little change in nearl forty years. But no one ever asserted that the Sayr method produced hyperextension. It does not. It is nevertheless, a simple and effective way of securin immobilization, and the results obtained by it hav warranted its continued use over a long period of time. Realizing its one shortcoming, a number of men have produced devices for applying plaster-of-Paris jacket in hyperextension. These have been effective, but fail either in the element of simplicity or in accuracy, or both, and consequently have not been widely accepted in routine work. To overcome such objections I have evolved an apparatus which utilizes the bandage sling in combination with an ordinary jack, the simplicity and efficiency of which are shown in the illustrations.

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* Read before the Orthopedic Section of the New York Academy of Medicine, Nov. 18, 1910.

To determine just what is accomplished in the way of position by the use of the familiar head-sling, tracings have been made in about fifty cases with the patients prone on a hard table and strung up ready for a jacket. Most of these showed some correction of deformity, but only a little, as will be observed on referring to lines 1 and 2 (Fig. 2) of the tracings presented herewith, which are typical of the entire number. In contrast with line 2, traced by a lead tape with the patient in upright suspension, is the third of each set, which gives the contour of the same spine suspended by the jack and sling.

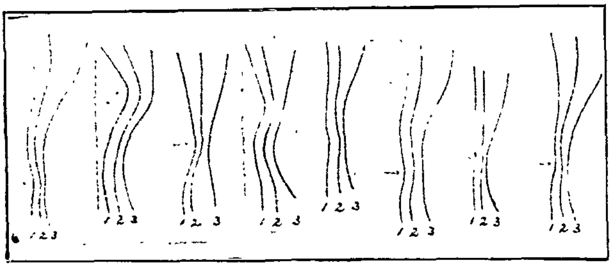

Fig. 2.—Tracings showing correction of deformity obtained by "jack and sling." 1, contour of spine with patient prone on a hard table; 2, contour of spine with patient in upright suspension; 3, contour of spine with patient suspended by "jack and sling."

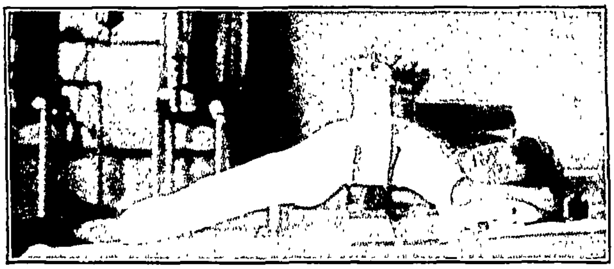

Fig. 3.—Patient suspended by "jack and sling" ready for jacket. Note extent and thickness of padding.

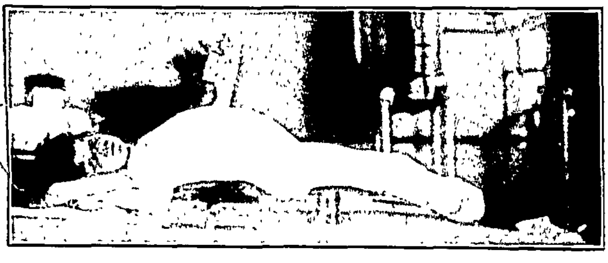

Fig. 4.—Jacket finished but not trimmed.

The apparatus illustrated in Figure 1 consists of an automobile jack, to the movable upright of which is attached a horizontal bar, and to the base two foot-pieces to insure lateral stability. On the bar are two shaped wire loops, over which are pinned the ends of a muslin bandage. Its simplicity is evident.

It is used as follows: The patient lies on the back and a two-inch muslin bandage is passed under the body, bearing exactly on the kyphos; the bandage is padded generously the whole breadth of the body. This form of padding, which is a departure from ordinary practice, is absolutely essential to avoid excoriations. Felting at least one-quarter of an inch in thickness is the best material for the purpose. The ends of the bandage are pinned over loops on the horizontal bar and the jack is set in motion, a hip-rest and shoulder-rest being placed in position as the patient rises. The desired degree of hyperextension having been obtained, the usual pads to protect the spinous processes and iliac prominences are placed in position. The plaster bandage is started at the pelvis. When the suspending sling is reached, the bandage is crossed over the body from the lower border of one upright to the upper border of the other. To give strength to the front of the jacket several folds of plaster bandage are passed longitudinally between the muslin supports, being carried down on either side of the sling as it leaves the body. When the cast has hardened the sling is cut away close to the jacket. It is unnecessary to close the remaining slits except for appearance, as they in no way interfere with the strength of the jacket.

In simplicity, the jack and sling compares favorably with the usual method of upright suspension. By allowing the terminal parts of the spine to fall automatically and abruptly away from a narrow point of support it secures the greatest degree of hyperextension obtainable in any given case within the limits of safety. Further advantages over the upright method are greater steadiness of the patient, greater comfort of the patient, an easier attitude for the operator, less splashing of plaster, greater convenience in the application of jackets away from the plaster room—that is, in the home or hospital wards—the requirement of fewer assistants, and, of greater import than all the rest, the natural assumption of a better mechanical position for the diseased spine.

With this apparatus, I have applied jackets on patients ranging in age from 3 to 40 years, and in weight from 30 to 140 pounds, and all have been apparently comfortable. By the use of two slings, Calot jackets and jackets with jury-masts may be applied. While it is too early to report a convincing series of cases, there is reason to believe that persistent use of the jack and sling method, with frequent changing of jackets, will show a real correction of deformity in a large percentage of long-standing cases.

134 West Forty-Eighth Street.

PRIMARY SUTURE OF SUBPARIETAL RUPTURE OF KIDNEY

WITH REPORT OF CASE *

F. GREGORY CONNELL, M.D.
OSHKOSH, WIS.

CASE OF SIMPLE SUBPARIETAL RUPTURE OF LEFT KIDNEY, LUMBAR INCISION AND SUTURE OF KIDNEY FORTY-TWO HOURS AFTER ACCIDENT, RECOVERY

History.—M. M., a schoolboy, aged 11, about 8:30 a. m., Oct. 26, 1910, in attempting to alight from a moving bicycle, slipped and fell, striking his right lumbar region against the edge of the street curbing. There was very severe pain in the right loin, but no collapse, shock, or vomiting; but for a period of about five minutes he was unable to walk because of general weakness, with dizziness and nausea. After a short rest, in a sitting, doubled-over posture, he was able to walk a distance of about half a mile to his home, and as he still complained of very severe pain he was put to bed.

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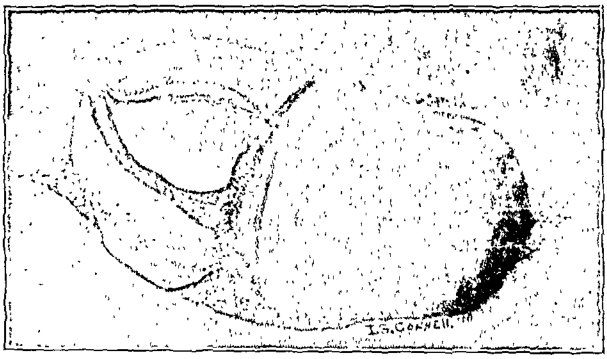
* Read at the meeting of the Western Surgical Association, December, 1910.

Dr. F. W. A. Brown was called and examined the boy very carefully. There was no fractured rib or evidence of serious injury, the tenderness and rigidity in the lumbar region being the only apparent result of the tumble the boy had taken. The severe pain persisted until about 1:30 p. m., when about 8 ounces of bloody urine were passed, after which the pain was markedly lessened; half an hour later vomiting occurred, after which there was a still greater sense of relief.

Examination.—About 2:30 p. m. I saw the patient in consultation with Dr. Brown, at which time the boy did not complain of much pain, other than a severe and constant ache in the left lumbar region. One was impressed at once, by the "bad appearance" of the patient. The skin was sallow or yellowish and the face had a drawn, anxious expression, despite the fact that the boy was making light of his injury and was asking for some chewing-gum. Pulse, temperature and respirations were normal; there was no dyspnea but deep inspiration caused pain under the left lower ribs. Abdominal palpation revealed marked rigidity and tenderness in the region of the kidney, more marked posteriorly. Deep palpation was impossible, and a tumor mass could not be made out, either by palpation or percussion. There was no free fluid demonstrable in the peritoneal cavity, nor was there any external evidence of the injury.

Diagnosis.—Because of the nature of the trauma, hematuria and rigidity of muscles in the region of the kidney, rupture of that organ was diagnosed, and exploratory incision advised. This advice was refused.



Illustrating the author's case of a stellate, traumatic rupture of the kidney, extending into the pelvis, in a boy aged 11.

Course of Injury.—During the following afternoon and evening the boy was better, in that the pain was not so severe, but he was unable to rest because of the constant dull ache at the site of the injury, and the passage of bloody urine about every hour. The act of micturition was without pain or tenesmus. The next morning there was an attack of vomiting, the bloody urination continued, and the patient became drowsy and weaker. The parents then became alarmed, realized the seriousness of the boy's condition, and sent him to the hospital for operation. On admission the patient was very weak, unable to sit up, the face was drawn and pinched, and there was a distinct yellowish tinge to the skin. His only complaint was a dull ache in the lumbar region, with a more severe pain on moving. Examination revealed a distinct fulness in the left iliocostal space, with marked tenderness on pressure; there was rigidity of the lumbar and abdominal muscles, and on bimanual palpation a mass could be detected, which was dull on percussion, but there was no free fluid in the peritoneal cavity. The temperature was subnormal, pulse 130, small and collapsible, and the respirations 24 and superficial.

Operation.—This was performed at St. Mary's Hospital, Oct. 27, 1910, at 2 p. m. Ether anesthesia administered by Dr. W. P. Wheeler, and Dr. F. W. A. Brown assisting, the kidney was approached through the usual lumbar incision. Division of the transversalis fascia revealed the fatty capsule of the kidney, through which blood was apparent, similar to the appearance of the peritoneum in cases of intra-abdominal hemorrhage. Division of this capsule was followed by the escape of considerable blood and many clots. The kidney was promptly delivered through the wound, and examination revealed a stellate tear extending into the pelvis of the organ in the upper pole of the kidney as shown in the illustration. A transverse tear was situated at about the junction of the upper and middle thirds, extending from side to side, practically separating the upper pole from the remainder of the organ. This upper fragment was divided into two unequal parts by a longitudinal tear extending from the transverse rupture to the upper extremity of the organ. This longitudinal tear was not located in the mid-line of the convex surface, but was situated about a quarter of an inch behind the mid-line at its lower part, and about half an inch behind, at its upper extremity, on a line probably analogous to the avascular line of Broedel. After cleansing the wound margins of blood-clot by salt sponges that passed into the pelvis, the wounds of the kidney were sutured with chromic catgut mattress stitches, which were inserted deeply into the parenchyma of the organ. Ordinary round curved needles were employed, and there was no tearing out of the stitches. After these deep mattress stitches were inserted and tied loosely, there was absolute control of the bleeding, and a layer of superficial circular or over-and-over stitches were inserted to effect accurate coaptation of the wound edges. An effort was made to close the fibrous capsule but this was found to be impossible. A cigarette drain was inserted to the lower pole of the kidney and the lumbar wound closed except at the passage of the drain.

Outcome.—Recovery was uneventful; there was very little discharge from the wound, no urine; and the drain was removed October 30. The patient was discharged with the wound healed, a perfect recovery, November 13.

REVIEW OF SUBJECT

That subparietal rupture of the kidney is not common is shown by the fact that in 1903 Watson[1] was able to collect reports of only 660 cases from the literature. Neilson[2] in 1908 added reports of thirty-four cases in which operation had been done, making a total of 694. In the same year Lardennais[3] collected reports of 771 cases (this, an inaugural thesis, has not been available in the original).

Since Neilson's report in 1908, I have been able to find either mere mention, or a more or less complete report, of 147 additional cases, in seventy-nine of which operation was not done and in sixty-eight operation was done. This rapid recent increase in the number of reported cases would tend to show that the above figures fall far short of the actual number of cases.[4]

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[1] Watson: Boston Med. and Surg. Jour., 1903, cxlix, 29.

[2] Neilson: Am. Jour. Med. Sc., 1908, cxxxv, 54.

[3] Lardennais: Thèse de Paris, March, 1908; Zentralbl. f. Chir., 1908, No. 45, p. 1328; Jour. de Chir., May, 1908.

[4] The collected cases are set out below.

Operations:
Tilton (1 case): Ann. Surg., 1909, l, 812.
Nassau (1 case): *Ann. Surg.*, 1907, *xlv*, 792.
Eisendrath and Herzog (1 case): Ann. Surg., 1908, xlviii, 709.
Bauman and Lower (1 case): The Journal A. M. A., May 1, 1909, lii, 1401.
Fredet (1 case): Rev. de gynéc. et de chir. abd., 1909, No. 2, Surg., Gynec. and Obst., 1909, ix, 696.
Bugbee (1 case): Med. Rec., Nov. 5, 1910.
Connell (1 case): Report herewith.
Griffith (2 cases): Brit. Med. Jour., April 25, 1908, p. 979.
Kaarsberger, H. (2 cases): Ugesk. f. Laeger, 1909, lxxi, 557. Abstracted in The Journal A. M. A., Aug. 21, 1909, p. ~~563~~.
Fischer (2 cases): Zentralbl. f. Chir., 1909, No. 33, p. 1156.
Martin (2 *cases*): *Old Dom. Jour. Med. and Chir.*, 1910, x.
Rossi (3 cases): Zentralbl. f. Chir., 1908, No. 16, p. 510.
Ponomarew (3 cases): Zentralbl. f. Chir., 1909, No. 13, p. 477.
Gibson: In a personal communication reports four cases.
Yoshikawa (5 cases): *Zentralbl. f. Chir.*, 1909, No. 18, *p. 655*.
Frank (5 cases): Arch. f. klin. Chir., 1907, No. 2; Year Book of Surg. (Murphy), 1908, p. 535.
Brewer (6 cases): Am. Jour. Med. Sc., May, 1908, cxxxv, 635.
Johnson (7 cases): Ann. Surg., 1909, l, 715.
Tromifow (20 cases from the Russian literature): Zentralbl. *f. Chir., 1908, No. 10, p. 312.*

The non-operative cases were reported by Frank, 34; Ponomarew, 29; Trofimow, 13; and Rossi, 3.

The kidney seems to be as well protected from injury as other of the abdominal viscera, if not better, yet the kidneys are the most frequently injured in case of abdominal contusion. The fact that there are two kidneys, one on each side, of course, accounts in a large measure for this frequency.

ETIOLOGY

The theory as to the cause that may explain a majority of the cases is that of Küster, in which the rupture is supposed to be due to hydraulic pressure acting through the full vessels and the pelvis and causing the organ to burst along lines radiating from the hilum toward the point of maximum impact against the lower ribs, the opposing resistance being supplied by the vertebral column.

Abdominal contusion most liable to cause damage to viscera, is that in which there is a sudden, strong impact against the anterior or lateral abdominal wall, often when the patient is taken unawares, and the abdominal muscles do not have time to contract in self-defense; such contusions are inflicted by a fall against a sharp object or blows from a hoof, a fist, a thrown ball, a carriage-pole, or a piece of wood from a circular saw. A simple fall on the feet, or muscular action alone, may produce rupture of the kidney; a dozen of the latter variety of cases are on record.

Another type of injury, such as being run over by a wheel, or crushed between car-bumpers, more often results in a complicated rupture. There is usually very little or no external evidence of injury in the former class of cases.

CLASSIFICATION

Ruptures of the kidney must be divided into complicated and simple. In the former there are additional injuries to other organs or structure; in the latter the kidney is the only organ damaged. A classification has been based on the extent of the damage to the kidney, but this is of very little clinical or practical value.

Simple rupture of the kidney is much more common than are the complicated injuries. In Watson's and Neilson's cases 512 were simple, and 125 complicated. This approximate proportion is maintained in the report of Frank, in which there were thirty simple and nine complicated.

SYMPTOMATOLOGY

A most important element in the recognition of these cases is attention to the history of the accident and the nature of the traumatism.

Shock and collapse are often absent or but transitory, and the lack of recognition of this fact has been the cause of mistaken diagnoses and delay in proper treatment in a great many cases.

Pain is usually very severe at the time of the injury. It may be diffused or localized in the kidney region. Its duration varies greatly, but it is usually present and is followed by tenderness and a dull ache in the region of the ruptured organ.

Rigidity of the muscles over the kidney, with tenderness on palpation, is practically constant, and is of great importance.

Hematuria is generally present; it may be delayed in onset, or may occur with the first urination. In cases in which the ureter is blocked with a blood-clot, with a transverse tear of the pelvis or ureter, or with complete pulpification of the organ, hematuria may be absent. It must be remembered that hematuria following trauma in the region of the kidney is not pathognomonic of injury to that organ, as the bleeding may originate in the bladder or urethra, or there may be a hemorrhagic nephritis, or idiopathic or other types of bleeding from the kidney.

Tumor in the kidney region, may be absent, may develop within a short time, when it is usually due to a perirenal hematoma, or it may be of late development. In such cases it is probably caused by infection, or more rarely, secondary hemorrhage.

DIAGNOSIS

The diagnosis of kidney lesion demanding an exploratory incision, may generally be based on a history of a particular abdominal contusion, with rigidity, tenderness or tumor and hematuria.

TREATMENT

Treatment may be expectant or operative. A most important feature of the treatment, and of great influence on the result, is a recognition of the indications for treatment, and the selection of the proper line of treatment for the individual case. The results are important from this point of view, and Watson's series shows, that with expectant treatment 27 per cent. of the simple ruptures resulted fatally; and in the complicated injuries that the death-rate was 91 per cent. Radical operative treatment, i. e., nephrectomy, resulted as follows in Watson's and Neilson's series:

Complicated, 51 with 21 deaths (41 per cent.).
Simple, 132 with 30 deaths (22.5 per cent.).

Conservative operative treatment, *i. e.*, gauze packing, drainage or suture, had the following results:

Complicated, 18 with 7 deaths (38 per cent.).
Simple, 107 with 9 deaths (8.5 per cent.).

Of the 125 cases in which conservative treatment was employed, gauze pack or drainage was done 115 times, with sixteen deaths; suture of the renal wound or wounds was done ten times, with no fatality.

The decision between expectant and operative treatment is a momentous one, as the fate of the patient often rests on this decision. Concerning the former Neilson says:

> So-called expectant treatment is permissible only in cases in which the local symptoms are insignificant, constitutional symptoms absent, and slight hematuria alone directs attention to the probability of renal injury.

Yet there are many severely damaged kidneys which if left alone, will cause death or prolonged illness, and in which the local symptoms are insignificant, the constitutional symptoms absent, and with but slight hematuria. There may be no differential sign or symptom between slight injury and complete rupture; therefore it would seem advisable to expose the kidney and arrive at a positive determination as to the extent of the injury in every case in which we can arrive at a probable diagnosis of injury of the kidney, and not guess at the seriousness or the triviality of the injury. By so doing a certain number of unnecessary exposures of the kidney will be made, but, on the other hand, a certain number of deaths will be prevented, and many prolonged illnesses and unsatisfactory results will be substituted by prompt and satisfactory recovery. As it is, in certain cases, impossible to separate the slight from the extensive injury it behooves one to treat all cases as though they were serious until they have been proved to be otherwise.

All operations for rupture must be exploratory at the onset, and may then be either radical or conservative. Nephrectomy has, in the past, been employed quite extensively; but, from a theoretical point of view, from the experiments of Dolgoff,[5] who found that severe laceration, even tearing the organ in halves, in dogs, did not result fatally; and from the clinical evidence, in the frequent, satisfactory recovery after conservative measures, it would seem that packing, draining or suture might be more frequently substituted for nephrectomy. Gauze packing or drainage is the most common method of conserving damaged kidney, being employed 115 times in 125 cases in which conservation was attempted. Primary suture has been performed on but few occasions, though it is the ideal method of dealing with such injuries. Watson was able to collect reports of eight cases, and Neilson added two that were treated in this manner. Since the report of the latter I have been able to find reports of three additional cases in the literature, which, with the case reported in this contribution, makes a total of fourteen. In these fourteen cases there was no death, and only two unsatisfactory results. In one (Delbet) a secondary nephrectomy was necessary, and in the second (Watson) a pseudo-hydronephrosis and fistula resulted.

In every case the sutures, when placed, caused satisfactory hemostasis. In one of Griffith's cases, that of a man aged 48, the mattress sutures pulled through the very friable organ, and the fibrofatty capsule was sutured enclosing the kidney as in a bag, with a satisfactory outcome. Dolgoff found that wounds of the kidney healed much more rapidly if the capsule was preserved, and especially if its cut edges were united. In my own case the capsule of the upper third of the organ could not be united, yet the result was entirely satisfactory. In this case the wound was closed with interrupted mattress stitches that passed deeply into the parenchyma, and the wound margins were then accurately coapted by over-and-over superficial stitches.

In Fredet's case the patient had a nephritis, and it was for this reason that nephrectomy was not done. As a consequence of the most encouraging result in this case Fredet, in his enthusiasm, says: "Nephrectomy is indicated as a late operation only where there is widespread infection."

REPORTS OF OTHER CASES

A synopsis of cases collected from the literature since Neilson's article is given below:

Griffith: A man aged 22, while running, slipped and fell, striking the left side below the ribs against the sharp edge of a piece of coal. He was able to walk some distance and climb two ladders, felt generally bad, but had no particular pain in the side. Five minutes after the injury he urinated what seemed to be pure blood, after which he felt much worse and nearly fainted. On admission to hospital he complained of pain all over the abdomen but more especially in the left lumbar region. One and three quarter hours after admission, the kidney was delivered through an oblique lumbar incision and was found to be torn on its posterior aspect at about the middle, extending from the convex surface to the hilum. Suture of the wound with catgut was done, which controlled the hemorrhage; a gauze wick was inserted to the kidney and the lumbar wound closed. The patient was discharged, well, on the eighteenth day.

Griffith: A man aged 48, was struck on the left loin by one end of a heavy timber. On admission to the hospital shortly after the injury the patient was in a kneeling posture, being unable to either sit or lie down because of the intense pain. The pulse was good, but there was vomiting of bile, tenderness and dulness in the region of the kidney, with hematuria. Exploration revealed the lower third of the kidney nearly detached, with a longitudinal tear extending along the mid-line of the convex surface of the upper portion. Mattress sutures were inserted to close the wounds, but many of them cut through the abnormally friable organ. The fibrofatty capsule was then sutured, enclosing the kidney as in a bag. The lumbar wound was closed with a tube drain reaching to the capsule. The patient was discharged, well, on the twenty-third day.

Fredet: A male was struck in the left flank by a heavy falling body; there was brief loss of consciousness, followed by severe pain in left side with a hematoma but no free fluid in the peritoneal cavity. Catheterization revealed hematuria. Exploration revealed lesions on the anterior and posterior surfaces of the kidney. Nephrectomy was thought to be indicated but because of a nephritis, it was deemed safer to suture the tears in the organ. Recovery ensued.

CONCLUSIONS

1. Owing to the rapid recent increase in the numbe of reported cases, there is reason to believe that subparietal rupture of the kidney is more frequent tha the literature would lead one to believe.

2. Shock, injury to other organs, and external evidence of trauma are frequently absent.

3. A history of an abdominal contusion, followed b rigidity and hematuria, is sufficient data to lead to a exposure of the organ.

4. Slight lesions, and complete rupture of the kidne can not be differentiated by clinical signs or symptom

5. Proof that there is an absence of serious rupture i called for before instituting the so-called expecta treatment.

6. Nephrectomy should be reserved for very extensi disintegration of the organ.

7. Conservative treatment, preferably by suture, indicated in the majority of cases.

123 Main Street.

THE ADENOID AND TONSIL OPERATION

JOHN EDWIN RHODES, M.D.

CHICAGO

The general practitioner first comes in contact wit the child, and on him must largely rest the responsibi ity of recognizing the symptoms of these conditions they appear in extreme cases. He should, moreove appreciate the fact that there are remote and often les pronounced symptoms connected with the adenoid an tonsil *question* that are as much a menace to the healt as the others. It is not difficult to decide that a chil who presents very large tonsils and adenoids and w breathes with open mouth, vacant expression, etc., shoul have an operation that removes the mechanical obstru tion to a normal breath-way. But there are many cas in which the mere mechanical obstruction is the lea important of the considerations involved, and the dec sion must often be based on symptoms not direct connected with the nose and throat, and which we a coming to recognize more and more fully as prop subjects for the operation, involving as much for t child's future as the other. In adults, too, we are now removing the tonsils frequently for far more important reasons than that they are large, and at times in cases in which, though very little tonsillar structure is visible on casual inspection, much is found to be imbedded in the tonsillar triangle.

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[5] Dolgoff: New York Med. Jour., 1900, lxxii, 871.

* Read at a meeting of the Southside Branch of the Chicag Medical Society, Dec. 13, 1910.

I shall not attempt to speak extensively of the anatomic features of this subject. It must be recognized that tonsils when they are diseased form a culture medium for bacteria, and the pathogenic germs often enter the system. Rheumatic fever, myocarditis, endocarditis, nephritis, arthritis and arthritis deformans, adenitis and other conditions and infections are thus traced to the tonsil as the primary focus in many cases. The cicatrized tonsil, the result of chronic inflammation, often giving rise to peritonsillar abscess, should be mentioned in this connection.

The faucial tonsils and the pharyngeal tonsil are a part of the so-called Waldeyer's ring, draining into the secondary lymphatic ring; the faucial tonsil drains into those glands situate at the angle of the jaw, in front of the sternocleidomastoid muscle, and the hyoid; the pharyngeal tonsil drains directly into the retropharyngeal glands. These connections will explain very definitely the close relationship and frequent involvement of these glands in diseases of the lymphoid structures. It should be a routine practice to examine the glands at the angle of the jaw and along the border of the sternocleidomastoid in every case brought to us for treatment of the tonsils. It is surprising in what a large number of cases the infection has traveled that far, with a resulting enlargement of the glands. The manifest treatment should then be directed, of course, not to the gland primarily, but to the infecting tonsil, and yet in many cases the latter have not been the subject of concern by patient or friends. In these cases until the tonsils are removed other treatment is practically useless.

The pharyngeal tonsil is a mass of lymphoid tissue lying in the vault of the nasopharynx, and its upper, posterior wall; a mass somewhat lobulated longitudinally with a marked median recess, when markedly enlarged, and extending laterally into the fossæ of Rosenmüller. In addition to this there is sometimes found a mass of lymphoid tissue called the tubal tonsil on the posterior upper lip of the Eustachian cushion, and very often bands of tissue extend from this across the fossa. Scattered masses of lymphoid tissue are often seen also over the pharyngeal wall, extending down over the oropharynx. This condition of the pharynx is often indicative of the presence of adenoids, especially if the faucial tonsils are also enlarged. In some extreme cases, I have found masses of the lymphoid tissue extending down from the Eustachian eminence over the upper surface of the veil of the palate for a considerable distance. In such cases, manifestly, the curette could not complete an operation.

Rarely is it possible to make a satisfactory examination of the child's nasopharynx with the rhinoscope mirror. Occasionally a child, tractable and unafraid, will allow the tongue to be depressed and the small mirror to be carried to the pharyngeal wall, when a complete view of the nasopharynx is sometimes possible. Ordinarily, however, palpation is necessary and will give the information needed.

I prefer to have the child held on the lap of the nurse, arms and feet confined by the nurse, the head of the child against the shoulder and steadied by an assistant standing behind. The examiner then seats himself in front of the child. A gag is inserted in the left side of the child's mouth and held by the examiner's right hand while the clean index-finger of the left, previously oiled, is carried up behind the palate into the vault.

The nasopharynx of very young children can be examined in this way, and one sometimes finds adenoids in children as young as three or six months which need an operation when interfering with the nourishment of the child.

Another method equally good is to have the child on the left side of the examiner sitting in the lap of the nurse, or in a chair; then the head, grasped with the open left hand, is held firmly against the left side of the examiner, the fingers are placed under the ramus of the jaw, the thumb pressed against the cheek, carrying it between the teeth, thus forcing open the mouth, and preventing the child from closing it on the examiner's fingers. The first finger of the right hand is then easily slipped behind the uvula and up into the nasopharynx. This can be done gently and quickly, but seldom without causing the child fright and some bleeding, as the lymphoid mass in young children is friable, soft, and easily injured. Cocainization of the nasopharynx is sometimes desirable, but usually unnecessary. In very young children it is better to use the little finger for palpation.

Hypertrophied faucial tonsils are easily recognized. Lying between the anterior pillar (the palatoglossus muscle) and the much thicker posterior pillar (the palatopharyngeus muscle) is the triangular tonsillar area. It is divided by the plica triangularis, a thin sheet of mucous membrane passing from the upper third of the anterior pillar downward and backward to the posterior pillar. This plica is the usual antero-inferior limitation of the lymphoid tissue of the tonsil and is adherent to the surface of the tonsil. In simple hypertrophy, in children especially, it is often fused in the tonsillar mass in which the enlarged tonsil occupies not only the space inclosed by the plica, and anterior and posterior pillar, but that below the plica—an inferior lobe—reaching at times the border of the base of the tongue. In projecting tonsils the enlargement may be inward, a large mass extending quite to the median line of either side, or the mass may be broadened from before backward and above downward but projecting very little.

Another variety, often encountered in practice, is the imbedded form. The tonsil is generally confined to the supratonsillar fossa, or it may include almost the entire triangular area. Such tonsils do not project into the throat on casual examination, but have enlarged outward, tonsils of considerable size being sometimes completely imbedded in the tissues of the lateral wall and soft palate. By palpation, a method that should always be employed, it is often found as a distinct mass as large as a filbert, or larger, entirely hidden in these tissues. Such tonsils can be recognized often by causing the patient to retch, when the muscular action projects them into the fauces. At other times a blunt hook can be used to pull forward and press outward the anterior pillar, when they are brought plainly into view. This is the variety that is frequently found in the toxic conditions spoken of, and when they are removed there may often be expressed from the crypts numerous masses of white, cheesy exudate.

These are the tonsils also overlooked by the practitioner until the infective results of their diseased condition have already been brought about. These are the tonsils, too, on which so many inadequate operations are done, leaving much of the lymphoid masses still in the fossæ to continue their ravages on distant structures through systemic absorption. This may be partly explained by the fact that the tonsils are considered an operative field by the most inexperienced, and to this fact nothing has contributed more than that remarkably ingenious instrument, the tonsillotome, so easily manipulated that it appeals at once to every tyro.

The tonsillotome is not an instrument for every case, and indeed a very limited number only are suitable for its use. In the somewhat pedunculated tonsils, projecting into the fauces and easily engaged in the fenestrum of the instrument, a good operation can sometimes be done easily and swiftly. In other cases the instrument is an excellent one to cut off an enucleated tonsil which has been grasped and drawn inward by suitable vulsellum forceps. The ease of manipulation of the instrument and the idea once prevalent that a tonsillotomy was an all-sufficient operation in any case, has led to the universal use of the instrument. Our ideas, as specialists, have changed, and the instrument has been relegated to its proper position, for carefully selected cases only. It is not possible where the major portion of an imbedded tonsil lies submerged in the triangular fossa to do a proper enucleation with a tonsillotome alone, and to attempt to do it with this instrument is poor surgery, and not for the best interest of our patients. I condemn the practice because of these facts, and because it is possible to do an operation, in nearly every case, that is adequate and surgically right.

Let me preface my remarks on the method I follow with the statement that I have no particular instrumentarium to recommend for the use of others. Every operator has one to which he is accustomed. Every man should work with the tools he likes best, but I should insist that, if the operation is indicated, one should be satisfied with nothing less than the complete excision of the tonsil with its underlying capsule and the removal of every vestige of the adenoids in the nasopharynx, as far as possible. However, the matter of whether tonsillotomy is or is not advisable in some cases is one on which there has been, and is now, much debate, and one in which I should not care to be arbiter. It seems to me, however, that if the removal of the tonsils is indicated for any other reason than that they are a mechanical obstruction, the operation should include the crypts of the mass, which usually reach the underlying capsule, and therefore there should be a complete enucleation.

TECHNIC

The child should be in the hospital, if possible, the night before the operation, in order that it may become accustomed to the surroundings, and have the advantage of a night's rest.

I think it is not essential to precede the operation with any local treatments by antiseptics, although a mouth-wash and a nasal douche in the morning may be used.

Ether is the anesthetic for which no adequate substitute has been found. Since the investigation of Dr. Hinkle, given in a paper before the American Laryngological Association a few years ago, and of other writers, many specialists in this country have given up the use of chloroform and rely entirely on ether. I ve used some of the shorter anesthesias, but have not en pleased with them, and prefer ether, as a rule. Nitrous oxid with oxygen is safe, and can be prolonged almost indefinitely, but, since administration is so much interfered with by the operation itself and the profuse bleeding, it cannot be satisfactorily administered continuously and in these cases the period of unconsciousness is of too short duration, while relaxation is not as complete as with ether. The final stages of the operation, therefore, are apt to be performed on a struggling, semiconscious child, even when employed for adenoids alone. The same may be said of ethyl chlorid and ethyl bromid, although the effects of these are rather more prolonged. The child should be quite profoundly anesthetized, so that the subsequent operation need not be too much delayed by further use of the anesthetic.

There is no better point than this at which to insist that an adequate tonsil operation is often by no means an easy task. It should be done under a general anesthetic, in children up to 15 years of age, certainly; and in certain circumstances in adults. In adults, however, I prefer local anesthesia—of which I shall speak presently—if the patient has a little courage and can control the reflexes of the tongue and pharynx sufficiently not to interfere with the necessary surgical manipulation.

For illumination I use the Jansen photophore (an electric head-lamp), and therefore prefer to operate in a darkened room. I have the child placed in a partially prone position on the operating table, the left arm drawn backward under the body, the right shoulder being pulled backward by the assistant, to whom is entrusted the holding of the gag, which is placed in the right side of the mouth. I prefer the Allingham gag. The child's face is brought to the edge of the table, and underneath the head a Kelly pad may be placed, all pillows being removed. The gag is very apt to slip out of position unless held firmly, and the assistant should be cautioned regarding it. In this position there is no danger of blood reaching the larynx and trachea, and there need be no change of position in removing both tonsils and adenoids.

It seems to me that one of the most important steps in the operation is the adequate enucleation of the tonsil. To accomplish this a sharp knife, bent on the flat, is placed behind the anterior pillar, cutting from above downward, through the mucous membrane reflected from the tonsil to the posterior surface of the pillar or severing adhesions when they exist. In children, always, and sometimes in adults, as a rule I cut through the pliça triangularis, severing it from the attachment to the pillar. In adults it is sometimes possible to save this sheet of mucous membrane by passing the knife from above downward and backward between it and the tonsil, the under surface of which it covers. Then the velar lobe may be freed from its attachment to the posterior pillar in the upper angle, in the same way. The latter is not often necessary in a child. A hook knife may be necessary, too, for freeing the very upper angle, the tonsil being seized with a vulsellum forceps and drawn inward. This is seldom needed. After these attachments have been properly freed, a surgically clean finger is passed around the tonsillar mass, firmly, enucleating it still more from before backwards by lifting the mass with its underlying capsule from its bed on the superior constrictor muscle, as far as possible. Some force is sometimes needed in passing the finger between the anterior pillar and the tonsil and underneath the tonsil. I believe that this complete enucleation is a most important part of the operation, as was well emphasized by Shurly in the last meeting of the A. M. A. at St. Louis.

The tonsil is then seized with an Ingals tonsil forceps and drawn inward with slight force. It is often seen almost completely everted. Over the handles of the forceps a wire loop is then carried, and over the head of the instrument to its base, and the loop is then tightened. Great care should be taken here not to include the uvula in the loop of the snare. I cut the tonsil off rapidly with this cold wire snare in children, as it is quite friable. In older children and adults the loop is closed slowly as it crushes through the tonsil. In adults it is so fibrous that the milled wheel of the snare will have to be used to sever it. Indeed, a larger wire than a No. 5 piano wire, which I ordinarily use, may be needed and a more powerful instrument than the one I generally employ (the Bosworth snare, modified).

The lower tonsil, the left, is removed first, then the right. The Rhodes punch forceps may be needed, if small masses of lymphoid tissue remain in the triangle, and these are easily recognized and can be carefully picked out. The space can be well exposed with a small, long-stem double tenaculum and thorough examination made.

Bleeding should always be controlled before the adenoids are removed. Usually pressure with small sponges attached to uterine hemostatic forceps is all that is necessary. I always have ready a pair of Jackson hemostatic forceps and a Mikulicz clamp. In some cases a ligature may be passed over the Jackson forceps and the bleeding vessel ligated. Seldom is this necessary.

In the removal of the adenoids I find the Lowenberg forceps the most satisfactory, as the finger of the left hand may be held in the nasopharynx and the tissue removed can be controlled absolutely. I usually reinforce this by passing a Gottstein curette to remove small vestiges of lymphoid tissue on the upper and posterior wall. I have at hand also Freer's pernasal forceps to remove small masses in the fossæ of Rosenmüller or other portions of the vault. Bleeding is of course very free at this time, but ceases in a very short time. Sometimes it may be necessary to carry a sponge into the vault with a finger of the left hand and use pressure for a brief time.

The child is then placed in bed for a few hours, a light diet is recommended for four days, and the patient kept in the house for a week. Twenty-four hours in the hospital is usually sufficient. A gargle of 1 per cent. solution of phenol may be used every hour for two or three days, and less frequently for a week. Iodole may be insufflated through the nose three or four times a day.

I have found the method described one that is adequate for every kind and size of tonsil, and is radical. I believe, too, that there is much less danger of hemorrhage in the snare operation, although bleeding sometimes takes place, whatever method is used, and one must always be prepared for such an emergency.

Local anesthesia may be used for adults, but one cannot promise absolute freedom from pain and discomfort, although I have sometimes removed the tonsils with scarcely any. If it were perfectly safe to use injections of cocain and adrenalin this would be quite ideal. I have used the method a good many times. Reports of cases of death following such injections were made at the last session of the American Medical Association at St. Louis, and I should hesitate to recommend it as a routine practice. On the other hand, the use of adrenalin (1/1000) swabbed over the surface of the tonsil and pillars, followed by the local application of a 10 per cent. solution of cocain freely, or the powdered crystals of cocain have had no fatalities so far as I know. When injections are made, a 1 or 2 per cent. solution of cocain is made, to a dram of which 5 to 10 minims of a 1/1000 solution of epinephrin, adrenalin or suprarenalin (fresh) may be added. The injection should be carried deeply into the base of the tonsils along the line of the anterior pillar, about ½ inch from the border of the pillar, using 10 to 15 minims of the solution for each tonsil. I now use local applications, usually of cocain crystals alone.

The instruments employed are a tonsil separator, curved tonsil knives, for each tonsil, a hook-shaped knife for the disengaging of the velar lobe, vulsellum forceps (Casselberry's), tongue depressor, sponges, etc. I favor seizing the tonsil with the vulsellum forceps first and then dissecting. A Freer right-angle knife is passed deeply into the tissues between the anterior pillar and the tonsil and brought down along the posterior edge of the upper posterior surface of the plica triangularis, saving this intact, which can be done in many instances. I believe, however, we will get better results usually if this plica is removed also. The same procedure is carried through with the separation of the posterior pillar and the tonsil, care being taken not to cut into either pillar. While the assistant depresses the tongue, traction is made on the partially separated tonsil and the hook-knife is carried over the top of the tonsil, almost at right-angles to it at first and separation of the tonsil from above downward, with the underlying portion of the capsule, is begun. As soon as the velar lobe is free, the remainder of the separation can be done with the Freer flat knives, care and discretion being used so as not to remove any of the underlying muscular tissue of the superior constrictor, on which the tonsil lies. The cutting should then be done downward and inward toward the fauces. The operation is often comparatively painless, with moderate hemorrhage. This same operation may be done equally satisfactorily under ether.

In this article I have given the details, as briefly as possible, of a method that has proved very satisfactory in a large number of cases. While the technic is rather difficult, at first, it can be acquired, and the results are usually so good that the painstaking care is justified. It enables one to deal with every form of tonsil, and leaves the throat in a surgically satisfactory condition.

Peoples Gas Building.

Elbow Sign of Scarlet Fever.—C. Pastia, in the *Tribune Médicale*, states that he found the characteristic sign he describes in 94 out of 100 scarlet fever patients in Grosovici's service at Bucharest and in all of twenty-three scarlet fever children examined in Paris. The sign is an exanthematous, linear, continuous eruption, localized in the bend of the elbow and very intense. At first the eruption is pink, then it turns a deep red or "dregs-of-wine" color or may resemble ecchymosis. The linear eruption is generally single but there may be several lines in some cases; between them the eruption resembles that of the ordinary scarlatinal exanthem. This linear exanthem develops early, he says, and persists to the end of the general eruption, leaving a pigmented line as it subsides. It is often useful for differentiation of the disease when the general exanthem is too faint to be positively recognized or is already past. He has never found it in any other eruptive diseases.

THE PRESERVATION OF ANATOMIC DISSECTIONS WITH PERMANENT COLOR OF MUSCLES, VESSELS AND ORGANS

A SUPPLEMENTARY NOTE

EDMOND SOUCHON, M.D.
Professor Emeritus of Anatomy, Tulane University
NEW ORLEANS

This supplementary note is to record the changes and improvements in the method described in the preliminary note published in The Journal (Aug. 22, 1908, p. 642).

Certain subjects only will secure the color by the embalming solution and the method. They are cadavers whose muscles are of a dark color before being embalmed. This is determined before the embalming by making a long and deep incision (3 inches by 1) into the deltoid or the femoral vastus externus. If the muscles show a black cherry color, the preparations will present a satisfactory color. If the muscles show a deep red cherry color, they may make good preparations, but not so surely. If the muscles show a light red cherry the color of the muscles in the preparation will not be satisfactory and no ultimate treatment or procedure will improve it. The embalming solution and the method preserve the color that the muscles present in the subject, but will not give a dark color to muscles which present a light color in the subject before embalming. As a rule, negroes present blacker muscles than white subjects. It took a great deal of time and labor to find out these important facts.

I have finally reached the conclusion that the following steps are the best to produce satisfactory results. They are somewhat different from the ones described previously.

1. Use only lean male subjects. Fat, however small in quantity, makes bad preparations.

2. Embalm the subjects with the following formula:

A: Arsenious acid (saturated solution) 2.5 gallons; nitrate of potash, 1 pound; liquor formaldehydi 6 ounces. B: Alcohol, 16 ounces; liquefied phenol (carbolic acid), 6 ounces; glycerin, 16 ounces; creosote (beechwood), 2 ounces. The two solutions, B and A, must be mixed and strained. The proper color may show only a few days after the embalming. Articulations and visceral preparations should be dissected without delay.

3. The arteries and the veins may now be injected, if desired.

4. Now partition the subject off, that is, divide it into a number of pieces according to the preparations that it is desired to make.

5. Place each piece in a glass jar with a solution of 1 ounce of liquefied phenol to the gallon of water (C 1; see previous article).

6. Then place the specimen in an empty jar with a lid, and leave it to drain. Hang with hands and feet up. The draining requires about ten to fifteen days. Visceral preparations should not be allowed to drain more than two or three days.

7. When the dissection is completed the preparation should be placed in a jar containing a solution of 1 ounce of liquefied phenol to 1 gallon of filtered water (C 1).

8. When the dissection has ceased to purge it is placed in an empty glass jar with a lid on and is left to cure. Visceral preparations should not be cured.

9. The arteries must be painted with a vermilion red, and the veins with cobalt blue. The moist (gouache) colors are good. They should be allowed to dry thoroughly before the dissection is placed in the first solution. This drying requires fifteen to twenty hours. Experiments seem to indicate that the ordinary house-paints prepared ready for use have the advantage of doing away with these long hours of drying. The vessels to be painted with oil paints should be well mopped with cheese-cloth or absorbent gauze, and left exposed to the air for about two hours. They are then dry enough for the oil paint to take or stick. Two thin coats are better than a single thick coat. After the painting is done, leave the vessels exposed to the air for about two hours; then place them in the permanent solution.

10. Finally, the preparation is placed in a glass jar filled with a solution of 20 ounces of alcohol to every gallon of filtered or distilled water (A 20; see previous article). Visceral preparations, brains, and articulations and ligaments seem to do better in a solution composed of 20 ounces of alcohol and 1 ounce of liquor formaldehydi to the gallon of water (A 20 F 1; see previous article). The alcohol seems to prevent the snow-white bleaching action of the formaldehyd and the formaldehyd the ivory bleaching action of the alcohol.

11. The solutions should be changed as soon and as often as they become slightly cloudy or discolored. The refraction of the water has often a very marked effect in reducing the intensity of the dark brown color which the muscles present when they are out of the solution. If this could be remedied, it would be a great improvement.

I have experimented extensively with solutions of glycerin by immersing in them preparations without proper color to improve their color. It did have that result, but as soon as the preparations were placed in A 20 or any other solution the improved color disappeared and the original unsatisfactory color returned. Instead of placing these preparations in A 20 I placed them, after the curing, in paraffin oil or ordinary white petroleum oil and the improved color remained, but after awhile the oil became cloudy.

Attempts were made to paint muscles with bad color. Moist colors (brown madder) gave a good result, but in course of time the color fades. Oil paints stand better, but at close range they do not look natural.

On being removed the brain should be placed in a solution composed of 1 ounce of liquor formaldehydi and 20 ounces of alcohol to 1 gallon of water (A 20, F1). The solution must be changed as soon and as often as it becomes discolored by the blood. Preparations of the brain which require dissections should be made before the brain hardens too much. Those preparations which require only sections should be done when the brain has hardened.

2403 St. Charles Avenue.

TYPHOID MENINGITIS

V. C. DAVID, M.D., and F. A. SPEIK, M.D.
CHICAGO

Clinically and pathologically typhoid meningitis is of especial interest, because of the common occurrence of nervous symptoms during the course of a severe typhoid, and because of the several types of meningitis that occasionally occur. R. Cole[1] has critically reviewed the subject of typhoid meningitis, adding a number of new cases to a list based on bacteriologic findings. He divides the cases into three groups:

1. Meningism. Symptoms of meningitis are present but there are no meningeal lesions and no direct relation between the bacteria and the symptoms. This condition is produced by the toxins in other specific fevers.

2. Serous meningitis of Quincke, in which there are symptoms of meningitis; the brain shows, microscopically, edema and round-cell infiltration, and a serous

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[1] Johns Hopkins Hosp. Rep., 1904, v, 12.

exudate is present, in which is found the typhoid organism.

3. Suppurative or purulent typhoid meningitis.

For purposes of more definite classification we prefer to subdivide Class 3 into purulent typhoid meningitis with and without intestinal lesions.

The difference in symptoms between a severe typhoid with marked nervous symptoms and meningism is very slight in many cases, and of degree only. Muscular twitchings, severe headache, delirium, carphologia, stiff neck and occasional presence of Kernig's sign are seen in many typhoids, without special features. A step further and the presence of palsies, convulsions, eye lesions and vomiting makes the diagnosis of meningism or meningitis, depending on the cellular and bacterial content of the cerebrospinal fluid. A differential diagnosis between meningism and serous meningitis is made by the presence of the typhoid bacillus in the cerebrospinal fluid of the latter. Is this sufficient evidence? Is it not possible that the typhoid bacillus occurs in the cerebrospinal fluid during the course of a fair proportion of typhoids, just as it is found in the urine, gallbladder and blood in many cases? If the typhoid bacillus is present in the cerebrospinal fluid as part of a general distribution of the organism, we must assume that in many cases it produces very few, if any, symptoms and no pathologic changes; and in other cases that it produces marked symptoms and no pathologic changes; and again, marked symptoms and definite lesions of meningitis. We have studied the cerebrospinal fluid from twelve patients with typhoid fever of varying severity with a view of determining the bacteriologic content and the possible therapeutic benefit to be derived from lumbar puncture in cases with marked nervous symptoms.

FINDINGS IN CEREBROSPINAL FLUID OF TWELVE PATIENTS WITH TYPHOID FEVER

Severity of Case.	Drops per Minute.	Color of Fluid.	Therapeutic Effect.	Culture.
1. Average	118	Clear	None	Negative.
2. Average	32	Clear	None	Negative.
3. Average	Increased pressure	Clear	None	Negative.
4. Average	Increased pressure	Clear	None	Negative.
5. Mildly nervous	104	Clear	None	Negative.
6. Mildly nervous	Increased pressure	Clear	None	Negative.
7. Nervous	80	Clear	None	Negative.
8. Nervous	?	Clear	None	Negative.
9. Nervous	190	Clear	None	Negative.
10. Nervous	Stream	Clear	None	Negative.
11. Nervous	Stream	Clear	None	Negative.
12. Nervous	Stream	Clear	None	Negative.

Cultures were made from the cerebrospinal fluid on bouillon and slant agar. To a large tube of bouillon about 7 or 8 c.c. of cerebrospinal fluid were added and about 1 c.c. on slant agar. The cultures gave no typhoid growth in any of the twelve cases. Two tubes showed a growth of staphylococcus, which was probably a contamination, as the cases were complicated by furunculosis, and by a bed-sore in one instance. In the six nervous cases, delirium, carphologia, involuntary discharges, and, in one case, stiff neck were present, and in none of them was positive improvement noted after lumbar puncture. In all cases, after the fluid necessary for cultures was withdrawn, the fluid was allowed to escape until it came to about twenty drops a minute. None of the cases showed any unfavorable symptoms after the lumbar puncture. The pressure under which the fluid escaped was almost uniformly increased in the very nervous cases. The cases were all typhoid fever as determined by the presence of a positive agglutination test, or a positive blood-culture. They were in the second to the fourth week of the disease.

Rocaz and Carles[2] report eight cases of typhoid fever in children from 4 to 12 years old, in all of whom the classical symptoms of meningitis, including Kernig's sign, strabismus and irregular pupils, were present. Lumbar puncture showed an increase in tension of the cerebrospinal fluid in all of the cases. In two cases there were a number of lymphocytes in the fluid, but in the remaining six cellular elements were lacking. Cultures from the fluid were all sterile. A marked improvement followed spinal puncture in all of the cases. The authors divide the contents of the cerebrospinal fluid of meningeal typhoids into four classes: A. Containing pus, typhoid bacilli alone, or, at times, other organisms. B. Colorless fluid containing the typhoid bacilli. C. Clear fluid with abnormal cell content, as excess of lymphocytes. D. Normal fluid but under high tension. R. Stein[3] also reports three cases with symptoms of meningitis in the course of typhoid fever in which lumbar puncture revealed a sterile fluid. Improvement followed the withdrawal of the fluid.

Under the head of serous typhoid meningitis Cole reported eight cases from the literature and added five more of his own. The interesting points are brought out that in one case recovery occurred and in several others the meningeal symptoms cleared up, the fatal issue being due to other causes. The time of the onset of the meningeal symptoms was variable and in severe cases the symptoms differed only in degree from those of a severe typhoid. In other cases the symptoms of meningitis were classical. Since Cole's paper cases of serous typhoid meningitis have been reported by Nieter,[4] A. Schutse,[5] Sicard,[6] and E. H. M. Milligan.[7]

We wish to report a case of serous meningitis occuring in a typhoid patient during the fourth to fifth week of the disease, from whose cerebrospinal fluid a motile bacillus was recovered which was agglutinated by the patient's serum, which previously had agglutinated known typhoid bacilli.

CASE 1.—*History.*—P. Y., a middle-aged Austrian laborer, entered Cook County Hospital, September 29, 1909, on the service of Drs. Kerr and Elliot, with a diagnosis of typhoid fever. He gave a history of the usual prodromes of typhoid.

Examination.—On admittance the patient had rapid respirations and flushed face. His spleen was palpable and some abdominal tenderness was elicited; lungs, heart and reflexes seemed normal; temperature was 104, pulse 112, and respirations 28. The urine was acid, specific gravity 1.020, negative for sugar but positive for albumin, and microscopically hyalin and granular casts were found. The white blood-count was 3,500 and agglutination of typhoid bacilli was positive in fifteen minutes in dilution of 1 to 50.

Course of Disease.—From September 30 to October 10 the patient had involuntary discharges, was drowsy and stupid

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2. Gaz. hebd. d. Soc. méd. de Bordeaux, 1908, xxxiv, 39.
3. Am. Jour. Med. Sc., 1910, i, 542.
4. München. med. Wchnschr., May, 1908, lv, 1009.
5. Berl. klin. Wchnschr., 1905, xlv, 1465.
6. Semaine méd., 1905, xlvii, 559.
7. Brit. Med. Jour., 1908, i, 1295.

and occasionally irrational. The temperature ranged from 103 to 105.2 F. per rectum. October 5, examination revealed typical findings of consolidation in the right lower lobe. The respirations became 40. On October 11 the patient had a severe chill and complained of pain in the head and abdomen. On October 13 he had another chill, and examination showed his neck to be rigid and extended. The eyes and reflexes were normal. The Kernig sign was present on the next day, and rigidity of the neck and opisthotonos were marked. Lumbar puncture was made and a clear fluid escaped at a scant 6 drops a minute. Cellular elements in the fluid were few. Cultures from the fluid showed next day a motile bacillus, morphologically like *Bacillus typhosus*, which was agglutinated by the patient's serum in fifteen minutes in a dilution of 1 to 40. From this period the patient grew constantly worse and developed twitchings of the muscles and stupor, and died October 18. Unfortunately no autopsy was obtained.

In reviewing the literature on purulent typhoid meningitis Cole found many cases reported, but few bacteriologically proved. He cites fifteen authentic cases, all showing intestinal lesions. In these cases the onset was acute, beginning in the second or third week of the typhoid and lasting from two to seven days. They were all fatal. Kernig's sign was absent in two out of three cases. Netter has reported 313 uncomplicated typhoid cases with the Kernig sign present forty-four times. Since Cole's communication no other cases of purulent typhoid meningitis with intestinal lesions have been reported.

We wish to report a case in a 4-year-old girl, in whose cerebrospinal fluid typhoid bacilli were present during life, and at the autopsy, were isolated from the meninges, lateral ventricles and cord. Characteristic intestinal lesions were found at autopsy.

Case 2.—*History.*—Annie S., 4 years old, Belgian, entered Cook County Hospital, June 20, 1908, on the service of Drs. Abt and Butler. The history of her illness was unsatisfactory, but her parents had noticed that she had had fever, no appetite and had been extremely restless during the week previous to admission.

Examination.—The patient was a well-nourished but restless child with flushed face and sordes on the lips. The neck was not rigid, no herpes were visible and the tongue was dry and coated. The pupils were equal and reacted normally; heart beat 180, and lungs normal. The abdomen showed no rose spots, was not tympanitic, tender nor rigid; spleen was not palpated; knee-jerks were not elicited, neither was there any Kernig sign, ankle-clonus or Babinski sign. Temperature on entrance was 104 F, pulse 136, respirations 36. The white cells were 6,000 per cu. mm.

Course of Disease.—The next day the general symptoms improved. There was no agglutination in a dilution of 1 to 40. On June 24 the spleen was palpable and there was a positive diazo reaction in the urine, which was otherwise normal. The patient was very sick at this time and extremely restless, tossing about continuously. Leukocytes on June 29 were 9,500. On June 30 the patient's condition was very poor. She lay in a stupor with divergent strabismus and stertorous breathing. Heart and lungs were normal. There was still no rigidity in the neck and Kernig's sign and ankle-clonus were absent. The feet were in marked plantar flexion and a suggestion of a Babinski sign was present. Agglutination still was negative. In the evening there was a positive Kernig, rigid neck, opisthotonos, and the respirations were Cheyne-Stokes in character. The pupils were equal but reacted sluggishly to light. The next morning the pupils were unequal, the left being larger than the right, and twitching of the corrugator muscle was noticed over the left eye together with twitching of the left cheek and left hand. Opisthotonos was marked, the hands were in flexion and the back was board-like. The ears were normal. Temperature was 107 F.; pulse could not be counted. By lumbar puncture about seven drams of a turbid, opalescent fluid escaped under pressure. This fluid was secured in a sterile test-tube and cultures were immediately made in bouillon. A smear made of the fluid was found to contain equal numbers of polynuclear and mononuclear leukocytes and great numbers of short, thin bacilli, mostly extracellular. These organisms were Gram-positive. No tubercle bacilli were present. The patient died at 2:15 p. m.

Macroscopic Post-Mortem Findings.—Twenty-three hours later, the ileum and jejunum were found to be the seat of an extreme degree of ulcerative enteritis. In all there were forty ulcers, round or elliptical in shape, longitudinal to the axis of the bowel and occupying the position of Peyer's patches. The base of the ulcers in several instances was on the serosa. Almost all were in the stage of healing, and the shaven-beard appearance was frequently seen. There were no lesions in the duodenum, appendix or colon. On opening the skull cavity the dura was found adherent to the calvarium. On removing the dura a greenish-yellowish exudate was found filling the sulci and following the course of the vessels. At the base of the brain was found about two ounces of a cloudy flocculent exudate. The vessels of the brain were everywhere injected. Considerable bloody fluid was found in the lateral ventricles. The base and cortex of the brain seemed to be equally involved in the inflammatory process. On opening the dura of the cord a quantity of cloudy purulent fluid escaped. The vessels of the cord were prominent and injected. All levels of the cord were involved. The post-mortem diagnosis was: (1) acute purulent cerebrospinal leptomeningitis; (2) typhoid ulcerative enteritis; (3) acute splenitis; (4) mesenteric lymphadenitis; (5) right fibrous pleuritis; (6) passive hyperemia of the lungs and kidneys.

Microscopic Post-Mortem Findings.—Microscopically, different sections of the brain showed a thick cellular exudate over its surface, dipping down into the sulci. The blood-vessels on the surface of the brain were dilated and surrounded by thick masses of exudate, but in no place was the intima of the arteries lifted up by the cells of the exudate, as described by Ohlmacher in his case. In the walls of the vessels and in their proximity, especially, were seen large cells almost four times the size of a polynuclear cell, with vesicular, bladder-like nuclei. These cells were not observed to contain bacilli, which were numerous throughout the exudate. The cellular elements of the exudate varied in different places. In some areas the polynuclears numbered as high as 80 per cent., and in others the cells seemed to be mostly mononuclears. The large mononuclears were in preponderance. The brain membranes were almost exclusively involved in the inflammatory process as the brain substance itself seemed quite normal. The changes in the cord were similar to those described in the brain. The exudate seemed to be composed of polynuclear and mononuclear leukocytes and was especially marked about the anterior roots in the subdural space. There were also patches of extradural exudate and mononuclear cells were seen in the central canal of the cord.

Bacteriology.—Cultures made in bouillon from the cerebrospinal fluid during life showed a diffuse cloudy growth at the end of twenty-four hours. Hanging drop revealed motile bacilli with motion of the whirling, darting type. A smear from this culture showed many short thick-and-thin bacilli which were Gram-positive. Subcultures were made from the bouillon culture on the following media:

Agar Slant.	*Litmus Milk.*	*Potato*	*Glucose-Agar.*
24 Hours			
Slight, whitish, pearly growth.	Faint pink....	Faint dry line.	Deep growth; no gas.
48 Hours			
Only slightly increased growth.	Lilac pink.....	Moderate	No gas.......
6 Days			
Growth still localized.	Still lilac pink.	No odor; moderate.	No gas........

No indol in sugar-free bouillon.

With known typhoid blood this bacillus was agglutinated in a dilution of 1 to 40 inside of an hour.

At the autopsy cultures were made from the heart's blood, the pericardial fluid, bile, cerebrospinal canal, base of the brain, lateral ventricles and dura. Smears of these fluids, except the heart's blood and pericardial fluid, showed a short thick-and-thin bacillus. The typhoid bacillus was isolated in pure culture from the base and cortex of the brain, lateral ventricles and from the spinal cord. The colon bacillus was isolated from the bile. The typhoid bacilli, thus obtained, were agglutinated by the serum of a known typhoid.

Extremely interesting and somewhat rare are the cases of typhoid without intestinal lesions. Flexner and Harris[8] reported a case with an acute splenitis, with no intestinal lesions, in which typhoid bacilli were isolated from the spleen, lung and liver in pure culture. Opie and Bassett[9] report a similar case, clinically typhoid, with no intestinal lesions; but in which typhoid bacilli were found in the liver, gall-bladder and kidney. Neumann and Schaffer[10] report a case of suppurative meningitis, due to the typhoid bacillus, without intestinal lesions. Henry and Rosenberger[11] report a case of purulent typhoid meningitis with a bacteriemia, enlarged spleen and enteritis, but no ulceration of Peyer's patches. Southard and Richards[12] report a case of suppurative typhoid meningitis, in a tabo-paretic with bronchopneumonia, in whom there were no intestinal lesions, but typhoid bacilli were isolated from an enlarged mesenteric gland. R. S. Lavenson[13] reports a localized collection of pus in the pia arachnoid on the left and right cerebral hemispheres in a case from which typhoid bacilli were cultivated from the cerebrospinal fluid *intra vitam.* Smears from the pus at autopsy showed Gram-negative bacilli. The spleen was not enlarged and the intestines were normal.

We wish to report a case of suppurative typhoid meningitis with a bacteriemia without intestinal lesions, in which the typhoid bacillus was isolated from the cerebrospinal fluid during life and at autopsy.

Case 3.—*History.*—J. S., aged 48, entered the Cook County Hospital, Jan. 8, 1905, on the service of Drs. Preble and Reed. He was in a semiconscious condition.

Examination.—The temperature was 102 F. and pulse was 104. There was no enlargement of the spleen; reflexes were sluggish; leukocytes, 9,500 per cu. mm.

Course of Disease.—On the second day the patient had a convulsion which lasted ten minutes. Distinct nystagmus, vertical and horizontal, was present and the head and eyes were turned foward the right. On the third day he developed stiffness of the neck and legs and a lumbar puncture was made. A small amount of turbid fluid dropped out under no pressure. Smears of this showed an equal number of polynuclear and faintly staining mononuclear cells. A considerable number of organisms were present which were either diplococci or short bacilli in pairs. They were arranged in chains or pairs of four and were not intracellular, nor did they stain by Gram stain. Cultures were made from the spinal fluid as well as from the blood. In thirty-six hours these cultures showed a pure growth of a very short, thick bacillus, actively motile, Gram-negative, which grew culturally like *B. typhosus.* On the fifth day the eye-grounds were examined and found negative, but Kernig's sign was positive and the tongue protruded to the right. The nystagmus was less pronounced. Goose-flesh phenomenon was seen on the left side of the body, there being a sharp dividing line anteriorly and posteriorly. The patient was semicomatose; temperature 106.4 F. The patient died on the fifth day at 12:30 p. m.

Macroscopic Post-Mortem Findings.—The necropsy was held two days later by Dr. Reed. The anatomic diagnosis was purulent cerebrospinal leptomeningitis, chronic diffuse nephritis, atrophic cirrhosis of the liver, old depressed fracture of the skull, epigastric hernia, pulmonary congestion and edema.

The intestines were entirely normal. Peyer's patches were neither swollen nor ulcerated. The spleen weighed 280 gm. and had five notches. Its pulp was soft but the markings were quite distinct. On opening the skull cavity the dura was found adherent to depressed bone at the site of an old fracture. The meninges were much injected over the vertex, and above the Sylvian fissure was a fibropurulent exudate in the pia following the lines of the vessels on both sides and along the longitudinal fissure and temporal lobes. The exudate was more marked along the perforated spaces at the base of the brain, covering the pons and the region between the medulla and cerebellum and the upper surface of the cerebellum. In the lateral ventricles was a turbid, bloody fluid. The meninges of the cord were hyperemic in their whole extent, and beneath the meninges was a fibrinous exudate.

Microscopic Post-Mortem Findings.—Sections of the cord, occipital lobe and cerebellum were examined microscopically. In all there was a large amount of exudate on the meninges, composed mostly of polynuclear and large mononuclear cells This exudate was most intense around the veins and arteries and separated the meninges freely from the substance of the brain and cord. In no instance was the exudate present in the brain substance. In the sections studied there was not observed any lifting of the endothelium of the vessels by exudate. In the sections stained with methylene blue there were numerous bacilli seen, arranged in chains of three and four. No other organisms were seen.

Bacteriology.—Cultures were made at the autopsy by Dr. Stober. The *Staphylococcus albus* was grown from the pericardial fluid. The colon bacillus was isolated from the cord, cerebrospinal fluid, lateral ventricles and meninges of the brain. The typhoid bacillus was isolated from the cerebrospinal fluid and its identity made certain by subcultures, the description of which we omit. This organism was agglutinated by known typhoid serum in a dilution of 1 to 40 at the end of forty minutes.

SUMMARY

Typhoid bacilli are not found in the cerebrospinal fluid in uncomplicated cases of typhoid fever.

Typhoid patients suffering the ordinary nervous manifestations such as delirium, involuntary discharges, carphologia and severe headache are not benefited by withdrawal of cerebrospinal fluid, although the fluid may be under increased tension.

In typhoid patients showing classical symptoms of meningitis, the cerebrospinal fluid may be sterile, but lumbar puncture and withdrawal of fluid has improved the clinical condition in a striking way in some cases.

When typhoid fever patients show meningeal symptoms such as rigidity of the neck, Kernig's sign, convulsions, strabismus or irregularity of the pupils, lumbar puncture should always be done, and the fluid obtained examined bacteriologically and microscopically.

72 East Madison Street—5831 Washington Avenue.

Abdominal Pain and Loose Sacro-Iliac Joint.—There is one source of pain, and an important one which it behooves the surgeon always to be looking for, and that is the one due to loose sacro-iliac joint, first discovered, investigated and heralded by Joel E. Goldthwait of Boston (*Boston Med. and Surg. Jour.*, 1905, pp. 593, 643). This pain is apt to be associated with more or less severe backache, generally on one side over the sacro-iliac joint. It sometimes extends through to the front of the joint, where it is most apt to be mistaken for an affection of some pelvic organ. It can, as a rule, be demonstrated by a shortening of the affected leg and by rotating and forcing it strongly or by pulling it outward. In other instances the reasoning is more by exclusion. The therapeutic test is a valuable one, as most of these patients are relieved by a strong bandage made like a surcingle.—H. A. Kelly, in *Interstate Medical Journal.*

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[8] Bull. Johns Hopkins Hosp., 1897, viii, 259.
[9] Bull. Johns Hopkins Hosp., 1901, xii, 198.
[10] Virchows Arch. f. path. Anat., 1887, ix, 477.
[11] Am. Jour. Med. Sc., 1908, i, 240.
[12] Jour. Med. Research, 1908, p. 513.
[13] Univ. Penn. Med. Bull., 1908, xxi, 55.

A CASE OF EPITHELIOMA OF THE VULVA AND A CASE OF RECURRENT GROWTH OF THE MEATUS URINARIUS TREATED BY IONIC SURGERY AND PLASTIC OPERATIONS*

G. BETTON MASSEY, M.D.
Attending Surgeon, American Oncologic Hospital
PHILADELPHIA

The case of epithelioma of the vulva is reported as presenting somewhat unusual features, and also as illustrating one type of malignant growth for which the ionic method of destructive sterilization is peculiarly adapted. The permanence of the result attained is fairly assured by the fact that nearly two and a half years have passed since the operation was performed. The salient points of this case were as follows:

Patient.—Miss E. Z., aged 49, was referred to me by Dr. Marie Formad, of Philadelphia, June 16, 1908.

History.—Four years ago a lump the size of a pea appeared on the right labium majus; it increased in area and ulcerated. Two years ago, Dr. Formad sent her to a hospital where a microscopic examination was made and the case pronounced inoperable. During the past two years the increase in the area of the growth has been rapid.

Examination.—The condition on admission to the Oncologic Hospital was as follows: An eroded and proliferated surface extended from the clitoris to a point below the anus, involving the whole vulvar area and extending some distance into the urethra, vagina and rectum. There was a characteristic discharge accompanied by a foul odor. No enlarged glands were discoverable. The blood-examination showed erythrocytes, 5,550,000; leukocytes, 5,800, and hemoglobin, 81 per cent.

Treatment.—On June 24, 1908, the patient was placed under ether and a major monopolar application of zinc-mercury ions was made with a current of from 1,000 to 1,200 milliamperes for one hour. This application was accomplished by the ionic dissolution of sixteen zinc needles, each heavily coated with quicksilver and inserted in the periphery of the growth. The needles were connected with the positive pole of the direct current, the negative being a large kaolin pad under the patient's back. On separation of the large mass of sterilized tissue two weeks later an immense cloaca-like opening was revealed, into which the three pelvic outlets coalesced, the cavity extending so far on the right as to expose the lower edge of the pubic ramus. The wound was painless, and filled in rapidly. By August 18 the patient had regained partial control of both rectum and bladder.

Subsequent History.—Four months after the operation the floor of the pelvis had become partially replaced by healthy scar tissue, though this tissue was insufficient to prevent a protrusion of the vaginal and rectal walls, the prolapsed anterior vaginal wall containing a cystocele and giving marked discomfort when the patient sneezed or laughed. Dr. Longenecker, of the hospital staff, kindly did a plastic operation at this time on the anterior vaginal wall, with excellent results.

Plastic Operation.—Ten months after the ionic operation the cicatrization was still incomplete at a central point around the urethral opening, this opening existing at about the middle point of the normal urethral length, the external portion having been involved in the disease and destroyed at the operation. It was decided that a plastic operation for covering the bare area would be tried, and this was done by Dr. Hewson, April 18, 1909, a square flap of skin and subdermic tissue being dissected from the left side of the scar and side of the thigh and transferred to the freshened surface, an opening having been made in the middle of the flap to correspond with the urethra. A soft catheter was placed securely in the partly artificial urethra thus made and kept in position for six days, leaving some vesical irritation.

Result.—At the present time, two years and five months since the ionic operation, there is no evidence of recurrence of the malignant growth, and the patient's only discomfort is due to the practical absence of the lower rectal sphincter, making it difficult to retain flatus, and permitting soiling of the clothing when the feces are unformed. The bladder retains some of the sensitiveness acquired at the time of the last plastic operation, and micturition is somewhat precipitant.

Examination of Growth.—A specimen of the tissue was removed just prior to the ionic operation and was reported on as follows by Dr. John M. Swan, the pathologist of the hospital:

"A piece of tissue from the vulva, submitted for examination: The specimen is composed of skin and subcutaneous tissue. The epidermis has grown down into the underlying connective tissues, where it forms irregular islands of epithelial cells surrounded by young connective tissue. The cells in the epithelial islands are squamous in type. There are no pearly bodies. Diagnosis: squamous-celled epithelioma of vulva."

The other case to which I invite attention is an illustration of the difficulties that sometimes surround the diagnosis of growths of the urethral orifice in women. The appearance presented by this growth when first seen was that of a typical caruncle, the bright red color of the round protuberance showing within the urethral orifice, and its exquisite tenderness, both indicating a benign neoplasm. Yet a measure of destructive sterilization adapted to such a diagnosis was followed by the recurrence of a distinctly malignant growth in the same situation a few months later. The successful destruction of this second manifestation of the growth by an ionic application fully adapted to the malignant conditions will illustrate also, I think, the value of this form of surgery in this situation, and the opportunity that it presents for conserving the unaffected urethral tissues.

Patient.—Miss F., aged 33, was referred to me by Dr. J. B. Shaw, of Trenton, N. J., May 12, 1909. Her father died of cancer of the liver, otherwise the family history was negative. During the past five years the patient had lost 35 pounds in weight, and for two years she had suffered from a burning sensation at the urethral opening, greatly aggravated by the passage of urine, and from a more constant soreness referred to the bladder, with considerable muco-purulent leukorrhea.

Examination.—The patient was rather thin and somewhat bronzed in color. Inspection revealed a bright red caruncle-like body the size of a pea projecting slightly from the meatus urinarius. It was smooth and excessively tender to the touch. On urethroscopic examination the caruncle could be traced as an elongation up the urethra about one inch, it being attached as a sessile growth to the right side of the urethral mucous membrane.

Treatment.—The patient was admitted to the Oncologic Hospital and placed under ether for ionic destruction of the growth May 13, 1909. After etherization, a specimen was removed for microscopic examination; this caused free hemorrhage, which was quickly arrested by placing a zinc-mercury needle in the wound and turning on from 30 to 40 milliamperes of the direct current, positive. The hemorrhage being controlled, another positive zinc-mercury needle was thrust into the base of the growth, and, with both needles active, the current was raised to 80 milliamperes and maintained at this strength until the whole of the growth appeared to be devitalized and white, the total duration of the application being sixteen minutes.

Result.—The patient required catheterizing for twenty-four hours, after which time urine was voided. There was no rise of temperature. The small slough separated one week later, and the patient was discharged from the hospital at the end of two weeks.

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* Read before the Obstetrical Society of Philadelphia, Dec. 10

Examination of Growth.—The specimens removed were submitted to Dr. Swan, who made the following uncertain report, the cause of the uncertainty possibly being the failure to secure a portion of the base of the growth.

Pathologic Report on First Specimen.—"A few fragments of tissue removed from the external urinary meatus. The tissue is composed of a surface epithelium of the stratified squamous type lying on a connective tissue groundwork. The majority of the sections are of such a nature that no opinion can be given as to their character, but in one slide the connective tissue portion of the specimen is composed of a loose reticulum of cells of varying type mixed with an extensive exudate of red blood-corpuscles. Many of the cells, I believe, are epithelial cells, and I think the tumor is malignant, but I am not prepared to give an opinion as to its proper classification. Diagnosis: questionable."

Subsequent History.—The patient was kept under close observation, and seven months later (Dec. 13, 1909), there was distinct evidence of a recurrence of the growth in the shape of an ulceration at its site with raised, hard edges that refused to heal. She was readmitted to the hospital under the belief that the growth was originally and still malignant, with a view to its thorough destruction. On this occasion a current of 200 to 300 milliamperes was employed for double the previous time, or thirty-four minutes, and with six larger needles completely circling the growth at its base. Both operations were monopolar, that is, the negative pole was a large kaolin pad beneath the patient's back. Special efforts were made at this second operation to reach the highest point of the growth in the urethra with as little loss of muscular tissue as possible.

Pathologic Report on Second Specimen.—The pathologic report on the specimen removed at this time is as follows: "Three fragments of tissue removed near the orifice of the urethra, submitted for examination. The largest of these fragments is composed of very much hypertrophied squamous epithelium, which is in one place thrown into numerous folds so that it resembles the duct of a gland. Many of the cells of this epithelium are hydropic. No place can be found in which this epithelium extends into the underlying connective tissue, but the connective tissue just beneath it is the seat of a very well-marked round-celled infiltration, and these cells are principally of the plasma-cell type. The tissue is markedly congested, and in some places there is free hemorrhage. The round-celled infiltration above referred to is seen in scattered areas throughout the connective tissue, here and there associated with polymorphonuclear cells. There are a great many new blood-vessels in the tissue. One of the smaller bits is elliptical in outline, surrounded throughout its entire extent with a stratified squamous epithelium which does not dip down into the underlying connective tissue. This connective tissue is rich in blood-vessels, which are filled with blood, and shows numerous fibroblasts, and areas of small round-celled infiltration of the plasma cell type, mixed with lymphocytes. The third piece is composed of masses of round cells of varying type; polymorphonuclears, lymphocytes, plasma cells and fragmented nuclei. The tissue contains numerous blood-vessels with fairly thick walls. In several places there is free hemorrhage. In one part of this piece the endothelial cells forming the walls of the blood-vessels appear to be proliferating. Diagnosis: infective granuloma (?)."

Third Operation.—On Feb. 24, 1910, the patient was admitted a third time for the destruction of three nodules of bright color at the meatus. A current of from 100 to 150 milliamperes was used for twelve minutes, with three needles.

Result.—Her progress thereafter was steady, the parts closing in with tissue of normal color, somewhat retracted, but with complete control of the bladder and absence of unpleasant sensations, except a hypogastric discomfort for a time, apparently referable to the bladder. At present, ten months after the last operation, there is smooth scar tissue occupying the whole site of the growth, the external layer being regenerated mucous membrane by peripheral budding. The urethra seems healthy and of normal caliber, with the meatus retracted about one inch. This retraction has tilted the anterior wall of the vagina outward at the urethral orifice. The patient's unpleasant sensations on micturition have ceased and she has good control over the bladder. No evidence of a return of the disease can be found, and she has gained in weight and color.

903 Professional Building.

EARLY DIAGNOSIS OF GALL-STONE DISEASE

C. C. COLEMAN, M.D.
Instructor in Principles of Surgery and Clinical Surgery in the Medical College of Virginia
RICHMOND, VA.

The success of surgery of the bile-tract within the last ten years is due to more effective cooperation between the surgeon and the general practitioner, to closer observation of pathology, and to the contributions of experimental medicine. The opportunity of the surgeon to study pathology at the operating-table has brought about a clearer understanding of the significance of symptoms which heretofore have not been appreciated. The great work done by the Mayos and their associates, by Deaver, Moynihan and others, in calling attention to pathologic conditions found in the living has revolutionized our former conception of gall-stone disease. We now know that gall-stones, instead of being frequently present without symptoms, create a distinct type of clinical phenomena, which in the past we did not properly interpret. The picture of the terminal stage has been too frequently used for a general description of gall-stone disease.

The close association of the organs of the upper abdomen often causes diseases of any of these organs to find expression in the stomach. To assign these stomach symptoms to their real cause requires careful study. Except in ulcer or cancer, the stomach is seldom the seat of primary trouble, though it may be the agent through which distress in many abdominal organs may manifest itself.

The classical picture of gall-stone disease, accompanied by attacks of severe pain radiating to the right shoulder, nausea, vomiting and jaundice, is a late stage and results from complications that a calculous cholecystitis may cause. It is most unfortunate that these symptoms are still regarded by many as necessary to a diagnosis, thereby delaying proper treatment and prolonging disability. To prevent complications such as adhesions, perforation, obstruction of the common duct and chronic pancreatitis, it is necessary to recognize what Moynihan calls the "inaugural symptoms" of gall-stone disease, and to dismiss from our minds the typical text-book description of gall-stone colic.

Disease of the gall-bladder has its own type of digestive disturbance. According to Graham, we may distinguish four stages in its development and symptomatology.

In the first stage we see mild disturbance of the stomach, which occasions little distress to patients or anxiety to the physician. Irregular attacks of indigestion accompanied by gas formation and a feeling of epigastric constriction or tightness are observed. These discomforts are sudden in their onset and are frequently accompanied by chilliness, belching, regurgitation, or vomiting. Such dyspeptic attacks, sudden, irregular and mild, are as characteristic of early gall-bladder disease, as the typical attacks of gall-stone colic, which may ensue unless the trouble is recognized and proper treatment instituted.

In the second stage the disease occurs with pain, which may be dull or severe, and is located under the right costal arch. This pain may be aggravated by food, by sudden exertion or deep inspiration, and unless a careful physical examination of the chest is made, the physician may explain the symptoms by a diagnosis of pleurisy. These attacks of pain and dyspeptic disturbances are frequently evanescent in type, and with their going the patient enters on a period of good health.

In the third stage we have attacks of gall-stone colic, and here the diagnosis is easy. It is in this class of cases that the surgeon is most frequently called. These patients come with a well-defined history of sudden, excruciating pain located in the upper part of the abdomen, radiating to the right scapula and attended by nausea and vomiting. We have here, also, gas formation and spasm of the diaphragm; vomiting may give partial or complete relief, though morphin is most frequently required. A characteristic of these attacks is the suddenness of the onset and disappearance. The patient is unable to trace any connection between the beginning of the attack and the taking of food. Even in this advanced stage of the disease there may be a return of perfect health, which may continue for an indefinite period, to be suddenly interrupted in most cases by another severe attack.

The fourth stage represents chronic gall-bladder disease, with further complications of adhesions, obstruction of the common duct or pancreatitis. The diagnosis is not clear in this type unless the history of the case is carefully studied. Too frequently the significance of the symptoms or the urgency of the case is not appreciated until this stage is reached, and in view of former teaching, such a mistake is entirely reasonable.

Unless one has seen patients with gall-stone disease in the first or second stage operated on, it will be difficult for one to appreciate the constancy with which operation in these cases shows pathologic conditions of the gall-bladder. That operation relieves such patients and cures their "dyspepsia," is amply proved by the large number of patients operated on in most of the clinics in this country. These patients, who have definite symptoms of the first or the second stage, and are cured by operation, are the best proof of the association of gastric disturbances with the presence of gall-stones. Occasionally, we see cases in which the gall-bladder is packed with stones, thickened and adherent, and still there have been no symptoms other than the gastric disturbances already mentioned. The following case in the service of Dr. J. Shelton Horsley illustrates this point.

Case 1.—*History.*—Mrs. P., aged 37, a thin, emaciated woman, had suffered with stomach trouble and indefinite dyspepsia for the past twenty years. She complained of a "dull, aching, swollen feeling" in the upper abdomen, which sometimes radiated to the right shoulder and was frequently made worse by eating. She had had considerable bloating and belching. There had been no colic, jaundice, or pain severe enough to require a physician. Vomiting, which occurred only a few times, brought relief, though she usually obtained relief by drinking hot water. She said, "I have taken a lot of medicine for indigestion, which would relieve me for a while."

Diagnosis and Treatment.—Cholecystitis, with probably enlarged gall-bladder. Operation showed that the gall-bladder was enlarged, adherent to the anterior abdominal wall and surrounding tissues, and its walls thickened from chronic inflammation. It contained a thick purulent fluid, twenty-two large stones, with one stone completely occluding the cystic duct. We have here an illustration of the fact that even dvanced pathologic lesions of the gall-bladder may exist in a patient who complains of nothing but stomach trouble and slight pain. A letter recently received from this patient states that she is feeling better and weighs more than she has for sixteen years.

In making a diagnosis of gall-stone disease the etiologic possibilities should be gone into. It has long been noted that gall-stones often occur after typhoid fever, and are most frequent in women after pregnancy. It is probably also true that any systemic infection which produces toxins that irritate the mucosa of the gastro-intestinal tract may be a cause of cholecystitis, which, as we know, in its mild form is a forerunner of gall-stones. In the following case the patient's symptoms dated quite definitely from an attack of influenza.

Case 2.—*History.*—Mr. D., aged 45. The patient has had recurring pains in the epigastrium and lower abdomen for the past eighteen months; was well up until that time, when he contracted influenza. Since then he has had indigestion and pain in the stomach and lower abdomen. Pain and attacks of indigestion were irregular and alternated with periods of partial relief. There was no history of colic, cramps or jaundice, but his complexion he thought was slightly tinged at times.

Diagnosis and Treatment.—Operation showed cholecystitis and chronic appendicitis. The appendix was removed and the gall-bladder drained. This case gave a somewhat mixed type of stomach disturbance from both the appendix and the gall-bladder and may be an instance of cholecystitis from a general influenzal infection. The experiments of Else show that the gall-bladder is frequently infected through the general circulation and not through the portal system. If we accept his conclusion we can readily believe that a severe systemic infection without intestinal lesion could produce gall-bladder trouble. The operation revealed an appendix that was inflamed and moderately diseased and a gall-bladder somewhat thickened and congested and containing thick dark bile, but no stones. Removal of the appendix and drainage of the gall-bladder were followed by prompt recovery.

This patient was a farmer and had been in good health until the attack of influenza. So the relation of cause and effect between the influenza, the cholecystitis and the appendicitis may be assumed with apparent justification. It is probable that in such a case the gastric and intestinal mucosa are as much irritated as that of the gall-bladder and appendix, but the poor drainage of these two organs seems to render them unable to throw off the effect of the irritation as the stomach and intestines do.

Gall-bladder disease must be differentiated from ulcer, cancer, gastric neurosis, and reflex disturbance from chronic appendicitis. In ulcer of the stomach and duodenum there is a history of pain in the upper abdomen, coming on from one and one-half to four hours after meals, and relieved by food or by vomiting or by alkalies. The periodicity in ulcer is lacking in gall-stones. There is a definite relation between the taking of food and the relief of pain in ulcers, which contrasts with the sudden, irregular, and fleeting attacks of cholecystitis, which, in most cases, are not influenced in any way by eating. Formation of gas and the feeling of constriction, with belching, constitute a type of disturbance which accompanies gall-bladder trouble and which is not often found in ulcer.

Cancer of the stomach in about 70 per cent. of cases is said to result from ulcer, and its incipiency is diagnosed with great difficulty. A history of previous ulcer of the stomach should warn us of the approach of malignancy, and suggest a careful study of the case and gastric analysis. In cancer, the appearance of the patient, the irregular vomiting and the disgust for food, contrasted with the symptoms and well-preserved appearance of the patient suffering with ulcer or gall-stones, should be of some assistance in making a correct diagnosis. Blood is rarely found in gall-bladder cases. In ulcer it is present in one-fourth as against two-thirds of the cases of cancer of the stomach. Gastralgia is found in neurotic individuals, is relieved by pressure, and is not usually attended by nausea or vomiting. It is significant that a more thorough study of the pathology of lesions of the stomach and associated organs of digestion materially reduces the number of patients suffering with so-called gastralgia and other neuroses.

We might be called on to distinguish the girdle pain of locomotor ataxia from an attack of gall-stone colic. Here the Argyll-Robertson pupil, Romberg symptoms, loss of tendon reflex, and other signs of tabes would serve to differentiate.

Disturbance arising from the appendix, shown by gastric indigestion and pyloric spasm, are extremely difficult of diagnosis from primary gall-stone disease, and the two troubles frequently co-exist.

There may be no tenderness over McBurney's point or any other of the usual signs of appendicitis except a type of continuous stomach trouble. In these cases, however, the history may show an attack of appendicitis, which was not treated at the time of its occurrence, and the patient is able to date his indigestion from this attack. There is generally a loss of weight and considerable impairment of health. The effect of food on the pain is variable and the pain is usually in the neighborhood of the umbilicus. In appendical dyspepsia, its continuous type is in marked contrast to the fleeting, irregular and sudden attacks of gall-bladder trouble, and to gastric ulcer, in which there is generally a definite relation between pain and the taking of food. Cannon, of Boston, has succeeded in producing erosion and ulceration of the stomach by the injection or irritants in the cecum. These experiments would seem to indicate that even organic trouble of the stomach may be produced by disturbance in the region of the ileocecal valve.

The only satisfactory treatment of gall-stones is their surgical removal. Occasionally patients recover after passage of the stone by ulceration through into the bowel or into the stomach, or the patient may go through life a chronic dyspeptic and die of some other disease. It is as much the mission of physicians and surgeons to relieve morbidity as to lower mortality, and though the relation between these two things is not always directly apparent, it nevertheless exists in every case. A patient with indefinite stomach trouble, such as is found in the early stage of gall-stone disease, is more susceptible to other diseases, even if the gall-bladder trouble never assumes a threatening attitude in itself.

The medical profession is practically going through now, in regard to gall-bladder disease, what they have already learned in regard to appendicitis. The modern physician does not think of waiting in appendicitis until an abscess has formed, but recommends that the appendix be removed as soon as it is known to be diseased. So in the case of gall-stones, instead of waiting until the patient has had the early stages and has begun to suffer from colicky pains, vomiting and jaundice, the gall-stones should be diagnosticated in the first stage when the irregular attacks of gastric disturbance, with the feeling of constriction and the formation of gas in the stomach, show that as yet there has been practically no organic change in the liver, gall-tracts, or pancreas. Removal of the stones at such a stage will almost certainly insure a return of the patient to perfect health.

421 West Grace Street

VACCINATION AND SMALL-POX IN JAPAN

S. KITASATO, M.D.
Director, Institute for Research in Infectious Diseases
TOKYO, JAPAN

Since Jenner introduced the practical use of vaccination over a century ago, mankind in general has been well protected from the cruel onslaught of small-pox wherever the process is carried out. We are greatly surprised every now and then to find antivaccinationists among people far advanced in civilization like those of the United States of America. I should, however, never have attempted to make any criticism on their presumption, had not one of them, namely, Dr. Hodge, of Niagara Falls, referred to the facts gathered from our Japanese statistics in his paper in the *Twentieth Century Magazine*. I may be permitted, therefore, to try to make clear how vaccination is serving to wipe out small-pox in Japan.

I. EPIDEMIOLOGIC OBSERVATIONS ON SMALL-POX AND ON PREVENTIVE MEASURES IN JAPAN

The free communication between Japan, China and Corea in earlier days was the source which gave rise to great epidemics of small-pox quite frequently, until at last vaccination was introduced. Japanese history tells us that small-pox was imported for the first time into Kyushyu in the month of February, 123 B. C., after which it gradually spread toward the east as far as Kyoto, causing a great epidemic all over the country, creating sad havoc, and strewing the high roads with the dead and dying. From this first great epidemic down to 1868, when the restoration of the present Meiji Era set in, about fifty epidemics broke out, each one of which extended over a number of years, sweeping all through the country, diminishing the population considerably and devastating the fertile country everywhere. Towards the end of the Tokugawa Shogunate the measure introduced by Jenner was adopted in Japan, with what favorable results we shall see below. During the ten years from the beginning of the Meiji Era—i. e., 1875-1884—the number of patients suffering from small-pox averaged 2,008.1 per hundred thousand population, while the deaths were only 494.6, which was deemed to be a remarkable improvement.

One of the greatest epidemics of small-pox during the past forty years broke out in 1885 and lasted three years, with 125,315 cases and 31,960 deaths. The epidemic began to decline in 1888. It reappeared in 1892 and again lasted three years. During this second outbreak 88,095 cases were recorded, of which 23,603 patients died. The third outbreak extended over two years, 1896-1897, with 52,650 cases and 15,664 deaths. During the next ten years, a few cases were imported from China every now and then, without any ensuing serious outbreak. Since 1900, the cases in the whole empire were remarkably few, until in 1907, when the disease reappeared at Kobe. This caused an uncommonly severe epidemic, which spread all through the empire. It began to die out in the spring of 1908. During this fourth epidemic 19,101 cases and 6,273 deaths were reported. This outbreak, however, completely subsided by July of the same year, without any trace left. The diagram inserted shows these epidemics most clearly.

Let us now turn our attention to what has been done to avoid the wretched results brought about by small-pox in Japan. In olden times when people were ignorant of what measures they should apply, they resorted to

In the second stage the disease occurs with pain, which may be dull or severe, and is located under the right costal arch. This pain may be aggravated by food, by sudden exertion or deep inspiration, and unless a careful physical examination of the chest is made, the physician may explain the symptoms by a diagnosis of pleurisy. These attacks of pain and dyspeptic disturbances are frequently evanescent in type, and with their going the patient enters on a period of good health.

In the third stage we have attacks of gall-stone colic, and here the diagnosis is easy. It is in this class of cases that the surgeon is most frequently called. These patients come with a well-defined history of sudden, excruciating pain located in the upper part of the abdomen, radiating to the right scapula and attended by nausea and vomiting. We have here, also, gas formation and spasm of the diaphragm; vomiting may give partial or complete relief, though morphin is most frequently required. A characteristic of these attacks is the suddenness of the onset and disappearance. The patient is unable to trace any connection between the beginning of the attack and the taking of food. Even in this advanced stage of the disease there may be a return of perfect health, which may continue for an indefinite period, to be suddenly interrupted in most cases by another severe attack.

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Unless one has seen patients with gall-stone disease in the first or second stage operated on, it will be difficult for one to appreciate the constancy with which operation in these cases shows pathologic conditions of the gall-bladder. That operation relieves such patients and cures their "dyspepsia," is amply proved by the large number of patients operated on in most of the clinics in this country. These patients, who have definite symptoms of the first or the second stage, and are cured by operation, are the best proof of the association of gastric disturbances with the presence of gall-stones. Occasionally, we see cases in which the gall-bladder is packed with stones, thickened and adherent, and still there have been no symptoms other than the gastric disturbances already mentioned. The following case in the service of Dr. J. Shelton Horsley illustrates this point.

Case 1.—*History.*—Mrs. P., aged 37, a thin, emaciated woman, had suffered with stomach trouble and indefinite dyspepsia for the past twenty years. She complained of a "dull, aching, swollen feeling" in the upper abdomen, which sometimes radiated to the right shoulder and was frequently made worse by eating. She had had considerable bloating and belching. There had been no colic, jaundice, or pain severe enough to require a physician. Vomiting, which occurred only a few times, brought relief, though she usually obtained relief by drinking hot water. She said, "I have taken a lot of medicine for indigestion, which would relieve me for a while."

Diagnosis and Treatment.—Cholecystitis, with probably enlarged gall-bladder. Operation showed that the gall-bladder was enlarged, adherent to the anterior abdominal wall and surrounding tissues, and its walls thickened from chronic inflammation. It contained a thick purulent fluid, twenty-two large stones, with one stone completely occluding the cystic duct. We have here an illustration of the fact that even advanced pathologic lesions of the gall-bladder may exist in a patient who complains of nothing but stomach trouble and slight pain. A letter recently received from this patient states that she is feeling better and weighs more than she has for sixteen years.

In making a diagnosis of gall-stone disease the etiologic possibilities should be gone into. It has long been noted that gall-stones often occur after typhoid fever, and are most frequent in women after pregnancy. It is probably also true that any systemic infection which produces toxins that irritate the mucosa of the gastro-intestinal tract may be a cause of cholecystitis, which, as we know, in its mild form is a forerunner of gall-stones. In the following case the patient's symptoms dated quite definitely from an attack of influenza.

Case 2.—*History.*—Mr. D., aged 45. The patient has had recurring pains in the epigastrium and lower abdomen for the past eighteen months; was well up until that time, when he contracted influenza. Since then he has had indigestion and pain in the stomach and lower abdomen. Pain and attacks of indigestion were irregular and alternated with periods of partial relief. There was no history of colic, cramps or jaundice, but his complexion he thought was slightly tinged at times.

Diagnosis and Treatment.—Operation showed cholecystitis and chronic appendicitis. The appendix was removed and the gall-bladder drained. This case gave a somewhat mixed type of stomach disturbance from both the appendix and the gall-bladder and may be an instance of cholecystitis from a general influenzal infection. The experiments of Else show that the gall-bladder is frequently infected through the general circulation and not through the portal system. If we accept his conclusion we can readily believe that a severe systemic infection without intestinal lesion could produce gall-bladder trouble. The operation revealed an appendix that was inflamed and moderately diseased and a gall-bladder somewhat thickened and congested and containing thick dark bile, but no stones. Removal of the appendix and drainage of the gall-bladder were followed by prompt recovery.

This patient was a farmer and had been in good health until the attack of influenza. So the relation of cause and effect between the influenza, the cholecystitis and the appendicitis may be assumed with apparent justification. It is probable that in such a case the gastric and intestinal mucosa are as much irritated as that of the gall-bladder and appendix, but the poor drainage of these two organs seems to render them unable to throw off the effect of the irritation as the stomach and intestines do.

Gall-bladder disease must be differentiated from ulcer, cancer, gastric neurosis, and reflex disturbance from chronic appendicitis. In ulcer of the stomach and duodenum there is a history of pain in the upper abdomen, coming on from one and one-half to four hours after meals, and relieved by food or by vomiting or by alkalies. The periodicity in ulcer is lacking in gall-stones. There is a definite relation between the taking of food and th relief of pain in ulcers, which contrasts with the sudde irregular, and fleeting attacks of cholecystitis, which, most cases, are not influenced in any way by eati Formation of gas and the feeling of constriction, w belching, constitute a type of disturbance which ac panies gall-bladder trouble and which is not often f in ulcer.

Cancer of the stomach in about 70 per cent. of c said to result from ulcer, and its incipiency is dia with great difficulty. A history of previous ulcer stomach should warn us of the approach of mali and suggest a careful study of the case and analysis. In cancer, the appearance of the pat irregular vomiting and the disgust for food, c with the symptoms and well-preserved appear patient suffering with ulcer or gall-stones, sh

superstitious means to attempt to subdue the natural processes. One of the scientific measures, i. e., variolation, was introduced by a Chinese merchant, Lee-Nin-Shan, in the year 1745. That often caused an outbreak of small-pox, and so many fell victims to it that people felt that they were doomed to suffer from small-pox once during their lifetime.

In 1849, i. e., fifty-three years after Jenner had introduced vaccination, the process was first demonstrated in Japan by a Dutch physician, Monicke. The Japanese people were soon convinced of the marvelous effects of vaccination. Vaccinating stations were established in various great cities, e. g., Yeddo (now Tokyo), Kyoto and Osaka, in order to give the public the benefits of vaccination on a broader scale.

Japan, at that time, underwent a political change, and even medical science, which had begun to follow the teachings of the European school, was forbidden to continue by the Shogunate government. Vaccination was the only survivor of the newly introduced methods of the European school. This fact alone explains how far even the obstinate Japanese authorities were convinced of the efficacy of vaccination. The radical change of government just forty-four years ago, which is known to history as the Restoration of the Meiji Era, brought about a completely new mode of politics, everything Occidental being introduced. In 1874 the first vaccination law was enacted, and in 1876 the regulations for the prevention of small-pox were promulgated, which provided for compulsory vaccination. In 1885 a revised law concerning vaccination was enacted. It comprised all the data included in the former two regulations. It provided that every baby should be vaccinated within the first year of its age, and revaccinated every five or seven years. The violation of this regulation was punished with a fine not less than 5 and not exceeding 50 sen (or approximately, from 2½ to 25 cents in U. S. currency). It was in the same year, just after the enactment of these regulations, that the great epidemic broke out which is mentioned above. This regulation remained unchanged during twenty-four years; a new revision took effect in the year 1909. This new law provides that each new-born baby shall be vaccinated within ninety days after birth and before June of the next year. Revaccination shall be made at the tenth year from birth (including the year in which the child was born). If either the primary or the secondary vaccination is unsuccessful, the child shall be revaccinated before December of the next year.

Formerly Japan, as well as every other country, used humanized lymph only. The retrovaccine was then used from 1892 till 1900. In 1900 the present "pure animal lymph" was substituted. While humanized [illegible]able and used, the original vaccine was supplied from th[illegible] vaccinating stations. In 1874 the Japanese government established a calf-lymph farm, in order to meet the demands of the general public. In 1888 the preparation of calf-lymph was entrusted to the Japan Health Association, which continued to prepare the lymph for eight years. During these years, other private institutions made their appearance which prepared calf-lymph for pecuniary considerations. The products of these private enterprises were unsatisfactory, for the efficacy of such lymph eventually became questionable and at last public opinion was aroused to establish a national institution for the preparation of calf-lymph, and in 1896 such an institution was established. In this institution Dr. Umeno tried the experiment of preparing a "pure animal lymph" by passing the virus only through the calf, never using a human body as had been done previously. He succeeded in this experiment, and since 1900 this kind of calf-lymph has been supplied to the public. The original calf-lymph farm was closed in the year 1906, and the calf-lymph is now prepared in the Institute for Research on Infectious Diseases.

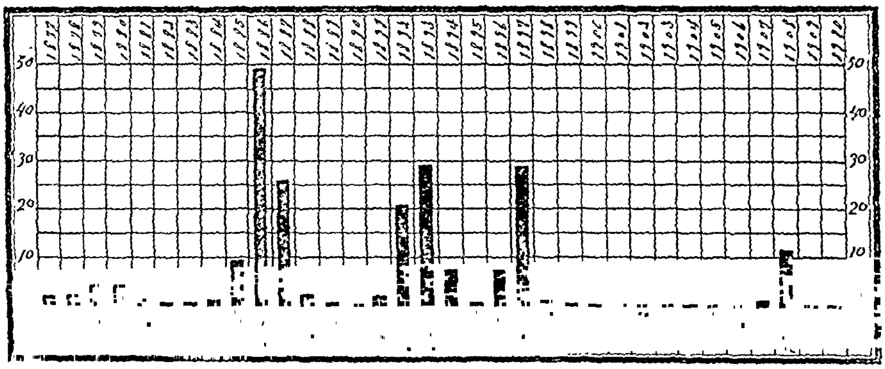

Diagram of small-pox mortality in Japan.

II. THE CAUSES OF THE EPIDEMICS OF SMALL-POX IN JAPAN

Ever since the promulgation of the first vaccination law in 1874, and that of the second one in 1876, when compulsory measures were first adopted, Japan has suffered from epidemics from time to time. The inefficacy of vaccination might therefore seem to be proved to shallow-minded observers, who do not fully realize the complicated nature of the origin of small-pox as well as of other infectious diseases. These various causes should be thoroughly examined before the *reliability* of vaccination is questioned. Let us now, therefore, review the epidemiology of small-pox in Japan.

There seem to be at least five principal causes to account for the presence and continuance of small-pox:

1. The Importation of the Virus.—Japan is surrounded by seas, beyond which lie several countries where preventive measures have never been taken. In these countries, small-pox exists continuously and at every possible opportunity invades Japan. When we had only a limited means of communication some centuries ago, each epidemic could be traced back to importation of the virus from China through Corea, and in course of time the more the facilities of communication were augmented the more the country was found to be liable to infection. This compelled us to establish quarantine stations, which were opened in 1899. Since that date, and until the end of 1909, the number of detected cases of small-pox at these stations amounted to seventy-one, as is shown in Table 1:

TABLE 1.—NUMBER OF CASES OF SMALL-POX DETECTED AT QUARANTINE STATIONS DURING THE YEARS FROM 1899 TO 1909

Quarantine Station	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	
Yokohama	1	3	.	.	1	.	1	2	3	5	.	—16
Kobe	1	1	1	.	1	3	7	2	1	7	2	—26
Moji	.	1	.	.	.	5	4	.	1	6	2	—19
Nagasaki	1	.	2	1	.	1	.	1	3	1	.	—10
Total.......	3	5	3	1	2	9	12	5	8	19	4	—71

some ass[illegible]gures, of course, exclude by necessity those rar[illegible]ssed the stations in the stage of incubation, which obviously made the prevention of the disease most difficult. The same difficulty is encountered in the most completely vaccinated country — Germany — which is bounded on one side by Russia, a non-vaccinated country. This is why there exist a few unavoidable cases of small-pox annually in that country. Imagine, then, how great is the chance of infection in Japan, which is in close proximity to China and Corea, whose condition of national health hardly admits even any comparison with that of Russia. This is one of the most conspicuous causative factors in the reappearance of small-pox in Japan. Japan is therefore never tired of preaching the gospel of vaccination, not only within her own dominions, but also as far as her sphere of influence permits.

2. *Non-Vaccinated People.*—Laws cannot be expected to be all-powerful. Wherever there is a law, there are also to be met not a few law-breakers, even when the breach is met with severe penalties. It admits of no doubt that such laws as regulate matters of public health provide but slight penalties, and consequently there are not a few law-breakers among the ignorant mass of people. This fact will appear when we come to examine the figures given in our statistics, which equal nearly the whole population of the country. But the more minute particulars, which are not shown in the statistics, will clearly show the vague notion we have of the number of non-vaccinated individuals there are scattered throughout the country. Among the 10,600 persons with small-pox reported during the five years including 1878-1882, non-vaccinated individuals were found to amount to 63 per cent., or 6,690. Then again, during the latest epidemic, in the years 1907-1908, 1,527 non-vaccinated persons among 5,215 small-pox patients were found in one prefecture, i. e., in Hiogo.

Such law-breakers probably will be found in any nation where a vaccination law is enacted. The middle and higher classes of Japanese people never allow their children to go unvaccinated, but the lower classes, who constitute the majority of the nation, often neglect their duty. They are, like kerosene oil in a house where a fire breaks out, fuel for the flames, furnishing every possible chance for the spread of the disease. Under the revised vaccination law taking effect in the year 1909, the hitherto irresponsible protectors of children were subjected to penalties for failure to have them vaccinated.

3. *Unsuccessful Vaccination.*—The protection of the individual against small-pox is never complete unless the points of inoculation develop the typical pustules, and the patient undergoes a regular symptomatic change. In order to bring about complete immunization in a human body, the quality of the vaccine lymph and the technic of vaccination must be considered.

In Japan, from the first year of the enactment of the vaccination law in 1887 up to 1907, covering twenty-two years, the reported number of vaccinations was 97,355,-246, of which 73,259,278 were compulsory and the remaining 24,355,968 voluntary. The average number of vaccinations per year was more than 4,420,000. Comparing this number with the whole Japanese population, there seems to be no one who has not been vaccinated: but a close examination of the real state of affairs will make clear the fact that in the above-mentioned large number of vaccinations are a certain number of unsuccessful vaccinations. Of course this large number of unsuccessfully vaccinated persons may also comprise some who have already acquired immunity by previous vaccination. At the same time we must not overlook those who have been unsuccessfully vaccinated because of unskilful manipulation on the part of the physicians, who had practiced the puncturing system instead of the cutting method, even when the lymph had been changed for the retrovaccine and this again for the "pure animal lymph." The effect of this may be seen from the statistics, which show a great difference between the percentage of the primary vaccinations gathered from the eight years before 1891 and after 1892. In the first eight years when the humanized lymph had been used the percentage of successful vaccinations was high, ranging from 85 to 90 per cent., but in the later eight years when the retrovaccine was introduced the percentage fell suddenly to 75 or 80. The figure, however, has been greatly increasing since 1900, when it reached as high as 88 per cent.

In short, it must be acknowledged that vaccination in Japan is so irregular that while there are some who receive no vaccination until five or six years of age, others have been vaccinated three or more times during the same period of time, and the consequence is the comparatively less number of genuine vaccinations. This evil will be overcome by the adoption of the latest radical policy.

4. *The Immunity Acquired Through Vaccination.*—Immunity through vaccination is not complete before three weeks after successful vaccination. This is why there are some cases of small-pox immediately following vaccination. Then again, the immunity is gradually weakened by the course of years. This fact may be seen from the following statistics:

Successful revaccination after—

1 year	13.6 per cent.	4 years	57.3 per cent.
2 years	32.9 per cent.	5 years	51.1 per cent.
3 years	46.6 per cent.	6 years	63.8 per cent.

This shows the percentage among the 951 cases observed in Japan.

7 years	72.5 per cent.	9 years	85.0 per cent.
8 years	80.0 per cent.	10 years	88.6 per cent.

These results were obtained by Weil in the year 1899.

The government report of the German Confederacy shows 91 to 93 per cent. of successful revaccinations after ten years from the primary. In other words, the immunity acquired through vaccination begins to disappear from the second year and by the tenth year it disappears almost completely. And therefore in Germany, and in some other countries, a law has been enacted to have the people revaccinated at the eleventh year from the primary vaccination.

The general statistics do not give these minute facts in detail, and therefore the deduction is imperfect. Had not the critics excluded these cases from the total revaccinated ones, they could not come to the conclusion which Dr. Hodge reached. For instance, during the latest epidemic in Japan, which broke out in 1907-1908, 608 patients were admitted into the Higashiyama Hospital in Kobe: 267 of the number were non-vaccinated, the past history of thirty-eight was uncertain as to the vaccination, twenty-five had contracted the disease within three weeks after vaccination, four had had small-pox previously, nineteen contracted the disease within five years and 225 over five years from the last vaccination. This shows also how far the immunity is impaired by the lapse of time.

5. *Virulency of Small-Pox.*—The virulency of small-pox is not constant in each epidemic. The higher the virulency of small-pox rises, the larger the number of cases among those who have passed several years from the last vaccination. Then, it may be asked, how can the virulency of small-pox be estimated? The simplest

way, it seems to me, is to estimate the death-rate among the non-vaccinated patients. The average death-rate of small-pox is estimated at from 20 to 40 per cent. in the European literature. In Japan, it shows a higher standard, ranging from 25 to 30 per cent. even during the small epidemics. During the epidemic of 1896-1897 it averaged 55.08 per cent., and that of the years 1907-1908 reached the high standard of 69.4 per cent. When the virulency reaches this high point, higher than has been encountered in European or American epidemics, even individuals previously attacked, as well as those vaccinated, contract the disease. During the latest epidemic, such cases were numbered at 242 in seven prefectures, viz., Hiogo, Osaka, Tokyo, Kanagawa, Hiroshima, Aichi and Wakayama, and fifty-seven died. The death-rate, therefore, was 23.5 per cent. This is unmistakable evidence of the strong virulency of the small-pox which prevailed at that time. It is like a devastating fire which consumes everything in its path and to which nothing is fire-proof. Japan dreads this kind of small-pox, which is also abetted by the other circumstances, but its direct results are by no means due to the inefficacy of vaccination.

III. THE EFFICACY OF VACCINATION

The efficacy of vaccination can be demonstrated by experiment, experience and statistics.

1. The fact that vaccinated individuals do not contract small-pox was made clear by Woodylle, William and others immediately after Jenner's experiment, by inoculating the virus of small-pox into the vaccinated individual. In modern times the same experiment has been made, of course for different purposes, with monkeys. Brinkerhoff and Magrath before the year 1904, and Dr. Miyajima, one of my assistants, in 1908 vaccinated a large number of monkeys with calf-lymph, and then inoculated them with the virus of small-pox, but none of the experimental animals contracted the disease. This is an established fact in science, and there is none who can deny it.

2. Empirical testimony can be best drawn from the great epidemics, in which a great many persons engage in transporting, nursing, inspecting and disposing of both the sick and the dead without the least apprehension, because every one of them has received a thorough vaccination. In Japan, those who engage in this kind of work are vaccinated regularly within a certain period of time, and the consequence has been that none of them fell a victim to the pestilence. If, on the contrary, they had never been vaccinated, the result would be nothing but disastrous. If vaccination had no preventive effect on small-pox, they would have fallen victims before anybody else. If, then, the results had occurred just the reverse to the real state of things as claimed by the Jennerists, they should have abandoned their claims a long time ago. But the general public outside the profession is well convinced of the efficacy of vaccination simply because of this empirical testimony, which constitutes an indisputable fact.

3. Statistical facts also bear witness to the efficacy of vaccination. But tables and diagrams shown in statistics do not explain themselves. The most minute and scrupulous examination as to the hidden meaning of them, which only can breathe into the dry framework of figures the spirit of truth, is necessary, so that fallacy may be avoided. In almost every civilized country where there is a perfect system of vaccination in vogue, there occur no great epidemics of small-pox, and consequently the death-rate among th [illegible] an epidemic should occur, it would soon yield to va cination.

Unfortunately, in Japan we are still having occasional epidemics of small-pox, which constitute for certain fanatic superficial observers a sad example of the inefficacy of vaccination. We have ample reason to believe, however, that the very things which Dr. Hodge and other antivaccinationists hold as evidence against Jennerism are the solid rocks on which the statistical proof of the efficacy of vaccination rests.

In the first place, in proportion as the system of vaccination had been perfected, the period of each epidemic and the number of deaths are diminished. This fact may be seen from Table 2:

TABLE 2.—NUMBER OF CASES, DEATHS AND DEATH-RATE PER HUNDRED IN VARIOUS EPIDEMICS

FIRST EPIDEMIC

	Cases	Deaths	per 100 Death-Rate
1885	12,759	3,329	26.09
1886	73,337	18,676	25.47
1887	39,779	9,967	25.06
Total	125,315	31,962	

SECOND EPIDEMIC

	Cases	Deaths,	Death-Rate per 100
1892	33,779	8,409	24.89
1893	41,898	11,852	28.29
1894	12,418	3,342	26.91
Total	88,095	23,603	

THIRD EPIDEMIC

	Cases	Deaths	Death-Rate per 100
1896	10,704	3,388	31.65
1897	41,946	12,276	29.27
Total	52,650	15,664	

FOURTH EPIDEMIC

	Cases	Deaths	Death-Rate per 100
1907	1,034	437	42.25
1908	18,067	5,836	32.32
Total	19,101	6,273	

The first and the second epidemics each lasted fully three years, and the third two years, while the fourth broke out in December, 1907, and ceased completely in August of the following year, covering a period of less than a year. The number of cases again shows a gradual decrease. While the first epidemic had over 100,000 cases, the second had 80,000 and the third 50,000, the fourth had less than 20,000.

The marvelous effect of vaccination on the epidemics of small-pox is manifested in Table 3, which shows the sudden fall in new cases during the epidemic, which otherwise would have increased. The table does not show the long list of the vaccinated persons, but from the beginning of the epidemic down to the close a special vaccination was enforced on all persons who were brought under the control of the hygienic police power.

TABLE 3.—MONTHLY REPORT OF SMALLPOX DURING THE YEARS 1907 AND 1908

	Cases	Deaths
August, 1907	4	2
September, 1907	1	0
October, 1907	25	6
November, 1907	90	31
December, 1907	770	383
January, 1908	4,481	1,394
February, 1908	5,424	1,498
March, 1908	4,685	1,461
April, 1908	1,815	895
May, 1908	926	314
June, 1908	526	185
July, 1908	121	73
August, 1908	36	28

During this epidemic a striking effect of vaccination in mitigating the virulency of small-pox was experienced.

While it prevailed in Hiogo and Osaka, special compulsory vaccination was enforced, and consequently in Kanagawa, Tokyo, Aichi and Kyoto it prevailed less furiously, as is shown in Table 4:

TABLE 4.—RESULTS OF COMPULSORY VACCINATION

Place and Date First Case Appeared	Cases	Deaths	Death-Rate, Per Cent.
Hiogo, August, 1907	5,215	2,315	44.4
Osaka, November, 1907	3,431	1,641	47.9
Kanagawa, December, 1907	684	209	30.5
Tokyo, January, 1908	1,479	379	26.8
Aichi, January, 1908	800	169	21.1
Kyoto, December, 1907	263	38	14.4

The drop in the figures in cases and deaths could never have been so great had it not been for the effect of vaccination.

6. The death-rate in small-pox is given as about 30 per cent. by authorities, but it shows a wide range of figures in various epidemics, just as we see in any other infectious disease. Again, the comparison between the death-rate of small-pox among vaccinated persons and non-vaccinated ones cannot be established unless the data be collected from only one locality in the course of one epidemic. In Japan we have rare statistics which show such comparison. They cover five years from 1878 to 1882. The total number of cases during that time amounted to 10,600, of which number the following figures are given:

	Cases	Deaths	Death-Rate per 100
Non-vaccinated	6,690	2,190	32.73
Vaccinated	3,910	455	11.63

From the above figures it will be seen that the mortality among the vaccinated persons was not more than one-third of that among the non-vaccinated.

The following figures show the same conditions, where clear distinction could be made between the vaccinated and non-vaccinated, in Tokyo, Kyoto, Osaka, Hiogo, Kanagawa and Aichi, where during the latest epidemic the cases numbered 10,286:

	Cases	Deaths	Death-Rate per 100
Non-vaccinated	2,932	2,031	69.3
Vaccinated	7,254	1,926	26.6

The above figures show the decrease in the death-rate among the vaccinated persons to one-half that of the non-vaccinated ones.

The vaccinated persons in the above table include those who were vaccinated within three weeks from the time of exposure and those who had passed the time assigned as the infective period. If these cases be deducted from the number the result would be more accurate.

During the epidemic of 1907-1908, the first case appeared in Kobe City and the disease prevailed most severely there. The Higashiyama Hospital at Kobe admitted 608 patients in all, who may be classified as in Table 5:

TABLE 5.—CASES IN HIGASHIYAMA HOSPITAL

Class	Cases	Deaths	Death-Rate per 100
Non-vaccinated persons	267	134	50.19
Uncertain	38	6	15.79
Vaccinated	274	19	6.90
Within five years	19	0	0
Over five years	255	19	7.84
Vaccinated during incubation period	25	3	12.00
Having previous attack	4	0	0
Total	608	159	26.15

From this table it will be clear that the death-rate among the non-vaccinated persons was 50 per cent., while that of the vaccinated was 6.44 per cent., i. e., one-seventh that among the non-vaccinated. Again, all the deaths among the vaccinated persons occurred exclusively among those who had passed over five years from the last vaccination and among those who had been vaccinated during the incubation period. No one will doubt the efficacy of our Japanese vaccination, now that such a clear table of statistics is produced. Besides, the table shows that even among those who were vaccinated during the incubation period, the death-rate was four times smaller than that of the non-vaccinated ones.

7. There is, besides the above statistics, the following circumstance which constitutes still another strong piece of evidence. I refer to the statistics of our army during the two great wars, the Chino-Japanese and the Russo-Japanese. Our army engaged in both wars in Corea and Manchuria, where small-pox is endemic, and therefore the soldiers were constantly exposed to the danger of contamination; the more so when the unhealthy way of living which is a necessary concomitant of war is taken into account. However, the Japanese authorities took care to have every soldier who went to the seat of war vaccinated, and the happy result was that in an army consisting of not less than a million of men, the following small number of cases of small-pox appeared:

Chino-Jap. war: 155 cases; 34 deaths; death-rate, 21.93 per cent.
Russo-Jap. war: 362 cases; 35 deaths; death-rate, 9.66 per cent.

As the total number of men engaged in both wars is not yet made known, the rate of contamination and the death-rate cannot be accurately stated; however, we get from these approximate figures some notion as to the paucity of cases. The results are equal to, if not better than, those of the Prussian army during the war of 1870.

CONCLUSION

Japan is surrounded by non-vaccinated countries, whence contagion may flow in at any time, while the ignorant people do not care to receive vaccination; those who neglect it are therefore predisposed to be infected at the slightest chance. The enormous number of vaccinated individuals which appears in our statistics does not include all the people who should be vaccinated, but it does include a large number of persons revaccinated at an earlier time than the law of immunity requires, because they are well aware of the efficacy of vaccination as well as very anxious to protect themselves from the dangerous contagion.

From these various causes, there still prevail epidemics of small-pox in Japan. I regret that these statistics presented by our Japanese government have seemed to afford data for upholding the theory of the antivaccinationists in America. Every civilized individual of Japan knows the benefit of the marvelous discovery of Jenner, because he sees from time to time how he himself and his neighbors are protected from horrible epidemics. It seems to me that the presence of such an antivaccinationist as Dr. Hodge, who denies the efficacy of vaccination so frankly in the United States of America, is a striking witness to the fact that the people of America are already well protected by not having had the sad experience of an attack of small-pox for a long time, and by the fact that their neighbors are being thoroughly vaccinated. The antivaccinationists are like those who would deny the benefit of sunshine. It gives them every kind of joy and happiness, and yet they are so familiar with it that they are not aware of its good. They would come to know the vast protective power of vaccination, had they once experienced the terrible outbreaks of small-pox in their communities, in which thousands on thousands fall victims while the vaccinated ones go freely through the epidemic without the least danger of contagion.

STANDARDS AND AUTHORITY *

GEORGE EDGAR VINCENT

Dean of the Faculties of Arts, Literature and Science, University of Chicago; President-Elect, University of Minnesota

CHICAGO

"Monarchy," said Fisher Ames, "is like a merchantman; it sails well, but sometimes strikes a rock and goes to the bottom; democracy is like a raft; it never sinks, but your feet are always in the water." Thus with homely piquancy the Revolutionary sage set forth the conflict between the efficient élite and the unspecialized many. These contrasted views persist. In every institution, community, nation, these problems will not down: How shall the knowledge, experience, skill of the few be put at the service of all? If need be, how shall this wisdom be made coercive? How shall richer resources of science and technic be discovered and applied? With the change from country-side to city, from household to factory industry, from infrequent journeys to shuttle-like travel, from local to world markets, the problems of industry, commerce, health and politics become complicated and insistent. The horse-sense of a few decades ago will no longer serve an age of motor cars. The expert few are coming into their own. They assert superior knowledge and skill; they ask that these be recognized; they demand protection against sciolist, incompetent and quack. They seek to establish tests of individual training and efficiency for the few and to prescribe forms of conduct for the many. Thus fundamental questions are raised—questions of standards and of authority.

Plato in the "Republic" recognized these problems and provided for their solution. His "Republic" was an aristocracy of experts, an oligarchy of scientists. These guardians were highly trained, devoted to the common welfare. They could not transmit authority or privilege; they recruited their ranks from every social stratum in which they found ability. They were clothed with unquestioned power. They redistributed wealth, transferred children to the classes to which their aptitudes assigned them, censored literature and the drama—in short they made all decisions and imposed these on the mass of citizens. Plato assumed that truth could be discovered, that men could be trained to apply it and enforce it for the common good. Accurate science, a competent élite, and coercive power are to-day, as in Plato's time, conditions of adjustment to the life conditions of any social group, be it corporation, institution, community, state or nation.

Auguste Comte believed that authority ought to come from agreement; not agreement from authority. He had faith that with popular scientific education, "intellectual anarchy" would gradually disappear. Men would cease to explain phenomena by theological notions and metaphysical superstitions. They would, by the very constitution of their minds, be forced to agree, first, about mathematical relationships, then about celestial mechanics, next about physics and chemistry, finally about biology and social science. With the few something like this has come to pass. About most questions of the exact sciences educated men cannot differ. Discussion tends to take refuge in the fields of biology, psychology, philosophy and the social sciences. Even here science is steadily making conquests and robbing the intelligent of subjects for debate. But in another sense Comte's dream seems almost pathetic in its futility. The idea of the many accepting scientific knowledge from an appreciation of its validity and conforming their conduct to its demands, is still rather utopian. There are many who take a cynical view of popular education. They see medieval ignorance invading the twentieth century. Charlatanism, quackery and superstition run riot. Vagaries and absurdities sweep through a credulous public. Even they who have hope of making headway with scientific truth are not overconfident. "Against such education" writes one of these, "are naturally trained all the resources of quackery whose trade would be gone. And when free expression is accorded all alike, progress must be made in the teeth of ignorance too dense to have any conception of its own depth, and in the face of brawling charlatanry and screaming fanaticism."[1] In a sense, scientific knowledge and technic must always be a monopoly of the trained, efficient few. At any rate the participation of the many in this knowledge must be of a very different kind. To speak of modern science as a common possession of a whole population is misleading. The growth of science means specialization, and that means an élite. The degree to which the many appreciate the methods and spirit of science and recognize expert authority is a measure of popular intelligence.

There are professions and occupations that must be thought of as forms of social service rather than as personal careers. Thus doctors are rightly regarded as social servants. Their skill and fidelity are obviously vital to the community. Yet this view is far from universal. Individuals by tens of thousands see in a medical career chiefly a means of livelihood. They resent the rising standards of medical education as obstacles to the early enjoyment of an income. Many of these individualists resort to short-cut schools and to least resistance states. But these outcasts are embittered by exclusion from prestige and practice; they swell the ranks of the quacks and unfurl the black flag of the medical privateer. The discredited schools and "diploma-mills" also insist on the old dogmas of liberty and *laissez faire,* and make appeals to the traditions of the fathers, the spirit of '76 and other quaintly irrelevant ideas and shibboleths. Then, too, curious cults, recrudescent superstitions, attractive half-truths, esoteric mysteries are constantly arising to demand in the name of religion, free thought, or psychology, recognition as therapeutic agencies. To the influences which resist the standardizing of medical education may be added makers of proprietary remedies whose success varies directly with the credulity of the public. But in spite of impatient selfishness, mental inertia, sincere fanaticism, unscrupulous greed, the standardizing of medical education goes steadily, if too slowly, on. The Association under whose auspices we meet affords an example of that extra-legal centralized organization which creates national institutions amid what often seems a chaos of state particularism. Slowly but inevitably we are selecting a medical élite, experts to whom we entrust a constantly growing body of scientific knowledge and an elaborated technic.

It is essential that such an élite should be recruited from the widest area of possible ability. Society must provide a "drag-net" for special capacity. There is danger that the raising of standards may limit the field of choice to those groups which can afford the cost of long and expensive preparation. Socially and professionally such a result would be deplorable. If the community for its own protection insists on testing and training its social functionaries, it must provide a way of finding and encouraging unusual ability however this may be circumstanced. A system of scholarships, awarded by competent authority, after adequate tests, and continued only so long as the scholars' work justifies the support, would seem to be a socially necessary consequence of the increased demands of medical education. Medical associations, individuals, institutions and the states should all have a share in creating such a system.

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* Read before the Conference of the American Medical Association on Medical Education and Medical Legislation, Chicago, March 1-3, 1911.

[1] Hodges: Pop. Sc. Monthly, xlix, 6167.

So far medical men have been spoken of as one body. It is worth while to mention here the subdivision of the group into the teachers of medicine, practitioners and sanitarians. These sub-groups overlap somewhat, but on the whole they differentiate themselves rather clearly. Medical teachers may be further divided into those who investigate and those who give instruction. It is of prime importance that all these groups should work in closest harmony and loyalty. Their task is in a large sense common to all. Each group for its own highest efficiency must keep itself informed of the work the others are doing.

Granted that a body of medical experts is in existence, that the recruiting of this body is being more carefully supervised, that it is being gradually protected against the worst forms of competition, and granted, further, that this élite is able to formulate policies to protect individual and public health, how bring about the acceptance of these policies by the community? An enlightened despotism could impose such regulations on humble and submissive subjects. Model industrial villages have at times afforded modern instances of sanitation by ukase. One can imagine Peter the Great bringing things to pass quickly in Petersburg when once he had been convinced of the germ theory of disease. Experts have a kindly feeling for despotism. They know what ought to be done and they are impatient of delay. They often display a trace of autocracy when they have a situation in hand. A bureaucratic system under which the masses transfer to a body of government officials much of the deference once shown to the nobility, may display, as in Germany, or even in Switzerland, a high degree of efficiency. Under a régime which places the center of the franchise high up in the social scale, gives a thorough system of elementary and technical education, passes its male population through a rigorous military machine, exalts technical skill and scientific knowledge, there is a remarkable yielding to expert guidance. No wonder that the medical élite turn their eyes enviously toward Berlin where the details of conduct are rigorously enforced. But there is a vast difference between the down-trodden victims of a scientific paternalism and the untrammelled citizens of triumphant democracy. A German must keep the soles of both feet on the floor of a tram car, but the free-born American may extend his boot to be polished by every passing skirt, and in the State of Alabama is protected by at least one court in asserting his inalienable right to copious and casual expectoration.[2] Obviously the central problem in democracy is to give prestige and authority to the élite and to their prescriptions.

While rising democracies like those of France and England preserve traces of traditional deference to the upper classes, the American people show no such attitude. On the contrary, they usually display hostility, or at least derisive disrespect, for the specialized and their opinions. To the unspecialized average man the expert is in a way a personal affront. He suggests the idea of a superior class, and seems to reflect on the competence of the ordinary citizen. This feeling is a natural survival from the early days, especially on the frontier. The problems of that simple life demanded not highly trained specialists, but men who could turn their hands to many different kinds of work, none of which was searchingly tested by competition or other spur to efficiency. Slowly, grudgingly the technical expert, the railway and mining engineer, the architect, of late the agricultural specialist, have been given recognition by the many. But against doctors, especially experts in insanity, sanitarians, university professors, and others who arrogate to themselves special knowledge that is not easily tested in tangible, material ways, the American democracy still directs a large measure of incredulity and derision. And this, too, in spite of constant resort to physicians and personal confidence in them in individual cases. It is the difference between "my doctor" and "the doctors." Then, too, for obvious reasons the antagonism is much more marked toward bacteriologists and sanitarians than toward physicians in private practice.

There are other causes of popular distrust of the specialized few. The public attributes to them motives of cupidity and of class interest. Such a phrase as the "Doctors' Trust" by its sinister suggestions is a clever device for appealing to this latent suspicion. Again, the traditional idea that it is derogatory to personal dignity to defer to superiors, the hypnotizing influence of cherished "inalienable rights," the tendency to identify opinionated obstinacy with personal liberty—all these curious confusions of ideas play some part in making the many hostile to the few. Universal schooling and access to newspapers, periodicals and books of popular science create in tens of thousands a sense of familiarity with the latest thought. They pick up phrases, they are the victims of verbal suggestion, they have the pride of opinion. They set their neighbors right about current questions and warn them against the selfish recommendations of the experts. One of these local oracles in stopping his subscription recently wrote the following lines to the *Outlook*:[3]

> I have carefully studied the vaccination question for several years, and am thoroughly conversant with the expressed views of many of the most prominent advocates and opponents of the practice in the world, and I assert, knowing absolutely that I cannot be intelligently and successfully contradicted, that there is now nowhere to be found a man of proven competency and well-established reputation for truth and probity, either in or out of the medical profession, who advocates vaccination.

The doctors are not blameless for a good deal of the popular prejudice. By a sometimes tactless assertion of superior knowledge they commit the unforgivable American sin of "setting themselves up to know more than other people." When a prominent medical man in testifying before a senatorial committee says: "My position is that of an expert whose testimony cannot be impeached," he is doubtless *stating a fact*, but to the average man the cool assertion is irritating. It arouses antagonism. Another cause of popular distrust of expert opinion and professional probity is the widespread belief that physicians and professors of medicine can be induced to give testimony on either side of a legal case. The public cannot enter into all the intricacies which make possible honest disagreement between well-trained men. The easy inferences are that medicine is mere guess-work, or that doctors are hypocritical and venial. If the proposal to make medical experts an impartial special jury, summoned and paid by the court itself, can be carried out, there will be a gain for the prestige of the profession. It is to be hoped, too, that the conviction of the poor that they are regarded as mere clinical material for human vivisection may be gradually removed. This persistent misconception plays some part in the prejudice against medical men. Obviously the profession suffers seriously, not only from the quacks and charlatans without the pale, but from the self-seeking and disloyal who violate the spirit while they cleverly keep within the technical rules of the medical fraternity. By playing on the ignorance of patients, by prolonging the period of treatment, by prescribing futile remedies and advising unnecessary operations, by extortionate charges, these men do untold damage to the profession and furnish just grounds for popular distrust and resentment. The medical élite must have the vigilance and courage to protect itself, not only against enemies without, but against traitors within. Again, it is possible, with some show of truth, to charge the doctors with being slow to recognize new knowledge and better methods. There are extremists who insist that the profession has always opposed progress. The injustice of so sweeping an assertion does not prevent its having a certain effect on public opinion. The industrious incompetence of large numbers of practitioners who, graduated from preposterous schools and admitted to practice by ridiculous boards of examiners, run their devastating careers in some of our states, does not deceive all who know them. Even if the public is undiscriminating enough to put all doctors into one class, it is not wholly to be blamed for regarding the entire group with a good deal of suspicion and derision.

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[2] The Journal A. M. A., 1900, xxxv, 433.

[3] Outlook, Feb. 11, 1911.

Thus the more or less expert few face the many who trust individuals, but are slow to recognize the authority of the profession. What are the possibilities of reaching a better understanding? The answers are obvious: The few must deserve and win popular confidence; the many must learn to appreciate the competence and devotion of the few. And the state must formulate and enforce the terms of this better understanding. If the cure for democracy is more democracy, the corrective of a little education is more education. The only alternative is a return to autocracy. To the millenium-chaser, the short-cut reformer and the efficient administrator, the slow process of education is an irritating suggestion. They object to having their "feet always in the water."

But scientific men should face facts as they are. The public mind is like a force of nature. It is childish to rail at it, to denounce it, to expect it to be docile about technical matters. Doctors should diagnose the public calmly and in the scientific spirit. They should try to trace the play of cause and effect, and then take measures to bring desired results to pass. In this they have the right to ask the cooperation of all thinking men and women. The public is controlled by leaders. These leaders must be informed and intelligent. Colleges and universities have a responsibility to train these leaders. Every institution of higher education should be a model of public sanitation and hygiene. Every graduate should be well grounded in the principles of personal and community health. The public schools could do much more than they are doing at present to train children in hygienic habits and in intelligent deference to sanitary regulations. Popular literature, lectures, parents' meetings, visiting nurses' associations, organizations like the antituberculosis societies, city and state health departments and boards—agencies of many kinds are all engaged in the work of popular health education. Would that Mr. Carnegie's next ten million dollar gift might be devoted to publishing in newspapers authoritative advertising bulletins on hygiene and sanitation! Many an editor would be glad to be freed from irksome slavery to the patent medicine men.

A large responsibility for the education of the public must fall on members of the medical profession. Doctors and professors of medicine must devote some time to public addresses, to cooperation with public school authorities, to participation in local movements for improved sanitation, to hearty support of local health authorities when these are reasonably competent, and to civic movements designed to improve a defective public health service.

There is much platitudinous talk about legislation and public opinion. On the one hand are the doctrinaires whose one idea of social progress is to get some law passed. At the other extreme are to be found those who are so convinced that law unsupported by public opinion is futile, that they are in danger of neglecting legislative aid. As a matter of fact, oftentimes agitation for legislation is in itself a valuable means of public enlightenment. In any event the gains in public opinion should always be fixed as soon as possible in well-drawn laws. Movements, therefore, for legislation affecting medical education, admission to the practice of the profession, the organization of health boards, the enactment of sanitary regulations, etc., should all be regarded as a part of the process by which the expert few and the many are to be brought into relations of mutual respect and good will.

But it remains true that in a democracy, back of the coercive power of the law there lies the social authority which in the long run is vested in the few who by their approved competence and by their spirit of social service command the confidence and respect of the public. With increasing intelligence the many learn to protect themselves against quackery and to place confidence in tested leadership. If the raft of democracy cannot be transformed into a swiftly sailing ship, there is hope, at least, that it may be built up far enough above the waves to carry its passengers dry-shod.

PELLAGRA TREATED WITH SALVARSAN (606)

CHARLES M. NICE, M.D.,
JAMES S. McLESTER, M.D., and GASTON TORRANCE, M.D.
BIRMINGHAM, ALA.

In the light of early and material improvement of symptoms in three typical cases of pellagra following the administration of salvarsan, it has appeared wise to make this preliminary report. The final results, deductions, photographs and later cases will be embodied in a future report.

Case 1.—*History.*—W. H. R., aged 43, white, is an electrical engineer. The patient's family history is negative, except that one sister died some years ago of tuberculosis. The patient had malaria and rheumatic arthritis in youth. Since, he has enjoyed good health until the present condition began. About the middle of January, 1911, the patient was suddenly seized with cramping pains in his abdomen, followed by a profuse and weakening diarrhea. This persisted and did not yield to treatment. Some days later he noticed that his hands were burned to the elbows, which he attributed to hot oil. No similar burn ever occurred, though his work had remained the same. There was also a burn on his thigh, due "to a rent in his trousers." The patient was nervous and cried over small matters. His mouth became sore and he lost weight rapidly. He was confined to bed six weeks.

Examination.—March 4, 1911. The patient was about 5 feet, 7 inches tall, was greatly emaciated and weighed 100 pounds. His expression was dull and he answered questions sluggishly. Pupillary reflexes were normal; tongue red, moist and patchy; lungs were negative; liver two inches below costal margin; abdomen tender; patellar reflex exaggerated. There was a brownish indurated lesion of the skin over the hands and thick crusting over the points of the elbows. The intermediate forearms were pigmented, with paler areas of desquamation. There was also a large encrusted area on the inside of the thigh and the feet were somewhat involved. The urine contained albumin and a few granular casts. The blood showed 6,000 whites, 325,000 reds, 70 per cent. hemoglobin. The stools were six to eight a day, foul, containing macroscopic blood. There were no amebas, hook-worms or other important findings. Von Pirquet and Wassermann tests were negative. The pulse was 108 to 116; temperature slightly subnormal.

Treatment and Course.—After observing the patient two days, and the case being a frank one, it was decided to administer salvarsan (606), which was done by the intravenous method in a 0.05 gm. dose on March 6. There was a rise of temperature to 99.2 F. that evening. Aside from being restless, there was no inconvenience. The following day, the patient said he was better; the bowels had moved only once in twenty-four hours.

March 8, the patient was sitting up in bed and said he was hungry; did not cry when spoken to and looked brighter.

March 9, pulse lowered to 96. The patient knew he felt better. The skin condition had materially faded. The legs showed only a brownish discoloration; exfoliation from the hands marked.

March 12, improvement continued; practically all local signs of the disease had disappeared.

March 15, patient was walking around the ward; had gained weight; said he felt fine and was very hungry. He went home and will return for observation.

CASES 2 and 3.—March 7 and 8, two female negroes, with well-marked pellagra and giving negative Wassermann reactions, were given, intravenously, 0.05 gm. and 0.06 gm. of salvarsan, respectively. An improvement was noted in forty-eight hours.

After a week had elapsed the skin lesions had changed materially as had the ptyalism, vaginitis, weight and mental symptoms. Both were eating heartily, the diarrhea had abated and constant improvement was recorded. There appears to be an early and real improvement with no untoward effects from the administration.

SODIUM CACODYLATE IN TERTIARY SYPHILIS

REPORT OF A CASE *

L. W. CRIGLER, M.D.
NEW YORK

As comparatively few cases of tertiary syphilis treated with sodium cacodylate have been reported, and as widespread interest has been awakened in the treatment of syphilis with arsenical compounds by Ehrlich's new discovery, I wish to report the following case:

History.—J. L., aged 27, presented himself for examination and treatment at the Manhattan Eye and Ear Hospital Sept. 28, 1910, complaining of faucial irritation, for which he sought relief. He was referred to the throat department, where he was examined, and the following history obtained: About June 15 an indurated sore developed on the glans penis just back of the corona, followed in a few days by other sores on the body of the penis. Four weeks later there developed the eruption, followed by the faucial irritation from which he sought relief.

Examination.—The posterior pharyngeal wall was found ulcerated with two or three deep-seated ulcers on the buccal mucous membrane. The skin over the body showed numerous large and small rupial ulcers in various stages of development and necrosis. The patient stated positively that he had never had any other lesion previous to the one reported as occurring ten weeks previously.

Treatment.—A diagnosis of rupial syphilis was made with tertiary manifestations in the throat, and the patient put on bi-weekly injections of salicylate of mercury, together with suitable means for the relief of the local irritation.

Transfer to Eye Department.—After about four weeks' treatment the man was no better, and owing to the fact that a large rupia had developed on the right upper eyelid, with the possibility of its destruction, the patient was transferred to the eye department, where I first saw him on October 19. The diagnosis of rupial syphilis was confirmed by several of my colleagues, and in spite of the fact that the patient had had repeated injections of mercury, the Wassermann reaction was taken and found to be positive. The gumma in the lid was progressive.

Sodium Cacodylate Treatment.—The patient was put on daily injections of sodium cacodylate, ¾ grain to a dose. Within forty-eight hours the surface of the ulcer was smooth and healthy in appearance, the slough having been dissected away. At the end of one week the lid had entirely healed with very little deformity, considering the size of the slough. With the exception of two or three of the larger foci situated on subcutaneous bone surfaces near the skin and elbow, there was rapid cicatrization and healing of the ulcers. At the end of one week the injections were discontinued for a week, at the end of which time a second Wassermann test was negative. The treatment was then resumed in 1½ gr. doses daily for one week longer, after which the man received three injections weekly till November 21,

No internal medication was given until the reaction became negative, when strychnin and iron were given in tonic doses, three times a day. The patient has in no way suffered from the administration of arsenic. The case was apparently a very malignant one. It is possible that some lasting effect of the disease will continue to manifest itself owing to the destructive action of some hidden lesion, and since there are already numerous reports of recurrences after the use of salvarsan, it is not likely that the treatment in this case will completely eradicate the disease. In view of the fact, however, of the non-toxicity of sodium cacodylate, the simplicity of administration, and the rapidity with which it seems to arrest progressive lesions, it should be given whenever the proper administration of salvarsan cannot be carried out.

I hope to be able to report the future progress of this patient at a later date.

57 West Fifty-Eighth Street.

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* Read before the Ophthalmological Section of the New-York Academy of Medicine, Nov. 21, 1910.

The Anesthetist.—An expert anesthetist is quick to note every change, and can so "nurse" his patient that it is seldom he has any anxiety from the appearance of untoward symptoms. These difficulties may turn up in the hands of the less experienced, who must at times give an anesthetic, and who must, therefore, get the most thorough training possible. No man can have confidence in his power to administer an anesthetic safely who has not a very clear idea as to what constitutes a danger signal and a definite knowledge of how to proceed instantly and without hesitation to get his patient into a safer condition.—W. Rankin, in the *Practitioner.*

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[*For other information see second page following reading matter*]

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MUSCULAR EFFICIENCY AND PAIN

One of the most interesting subjects of discussion in industry and manufactures which has arisen in recent years is the question of human efficiency. In the effort to increase the output in the various trades and crafts a special study of the movements required for various accomplishments has been made. It was shown, for instance, that a bricklayer at work stooped many times a day in order to pick up the bricks. In doing so, each time he stooped he had to support, under varying conditions, the weight of his body and to lift at least one-half of it to the erect posture. On the other hand, it was shown that a good deal of this crude labor with the consequent exhaustion of muscular energy, might be saved by having the bricks so placed that he could reach them without stooping, and that this might be accomplished by means of machinery or scaffoldings, and the employment of cheaper labor than that of the skilled workman. It was found that a man might lay in this way one and a half times as many bricks as he was able to lay by the old method with the expenditure of actually less energy than before. It would seem that this improvement in method, which saved useless movement and expenditure of muscular energy, would surely have been developed by the workman himself; but it was not, and only when a skilled engineer deliberately set himself to study the workman's movements in order to eliminate all those that were unnecessary, was it found how much time and muscle-energy could be saved.

The lesson is rather pertinent for the physician who has to deal with the working classes. It is often found that the source of pains and aches, which are worse on rainy days, and in damp weather generally, and which are therefore usually referred to as "rheumatism," are often the consequence of efforts to use muscles under bad mechanical conditions or in unfavorable circumstances, and then to use them much more than the result aimed at demands. As a consequence of this, in practically all occupations there are painful conditions. In the old days when dentists used foot-power engines, most of them acquired a distinct halt in their gait known to the profession, at least, as the "dentist's halt" or "gimp"; this halt occurred in the leg on which the dentist stood, while the other was used in developing the power. Workmen who are employed on foot-power lathes suffer in the same way, and the only relief for them is to change the foot applying the power, or to occupy a sitting position, from which they can use both feet.

Workmen who are employed at benches in various trades are likely to suffer from corresponding painful conditions of the arms as a consequence of faulty use of the arm muscles. Filers, for instance, who work long hours at filing, are almost sure to have severe aches and pains in their forearms, unless their benches are so low that they can apply from the shoulders whatever pressure is necessary. Men who use a hammer often suffer in the same way, unless care is taken that there is no lost movement or waste of energy in their work. Women who sweep often suffer much more on the right side from painful fatigue (worse on rainy days, and therefore regarded as "rheumatism") than would be the case if they alternated hands in the use of the broom, and changed from a broom to a brush occasionally in order to vary the muscular movements. There is scarcely a trade or occupation in which some of the supposedly inevitable occupation-aches and pains could not be greatly modified for the better by proper direction in the use of the muscles, and by variation in the methods of work. This would save much pain and discomfort and avoid the objectionable use of anodyne drugs. This is the physician's department in the improvement of human efficiency that is occupying so much attention at the present time.

THE FUNCTION OF THE THYMUS

Not least among the problems confronting the physiologic investigator is that presented by the thymus, that mysterious organ which, culminating in its development early in life, normally undergoes early involution and by its persistence not infrequently produces the sudden, so-called thymic death. Friedleben,[1] who attacked this problem as far back as 1858, by attempting to remove the organ from various animals, failed to demonstrate any appreciable physiologic alterations in the animals so treated. Unfortunately, his work was done before the development of aseptic methods and was complicated by infection; nor is it very probable that he succeeded in complete extirpation of the organ. Of the great amount of more recent work, that of Basch[2] stands out prominently, because of the positive results which he reported. Following removal of the thymus in puppies from three to four weeks old, he observed marked, though transient, osseous changes, setting in as early as from two to three weeks after the operation. These changes took the form of deficient ossification with abnormal flexibility of the long bones, and with diminished resistance to fracture, the epiphyseal cartilage being thicker than normal, and at points of fracture there was transitorily deficient calcification of the callus. He obtained also marked nervous changes, the animals showing hyperirritability of the peripheral nerves, and less intelligence than the control animals from the same litter. Occasionally, also, they suffered from convulsive attacks which usually were fatal.

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[1] Die Physiologie der Thymusdrüse in Gesundheit und Krankheit, Frankfurt, 1858.

[2] Wien. klin. Wchnschr., 1903, xvi, 893; Ztschr. f. exper. Path. u. Therap., 1905-06, ii, 195; Jahrb. f. Kinderh., 1906, lxiv, 285, 1908, lxviii, 649.

Recently Klose[3] has reported the results of a repetition of Basch's work, selecting, however, animals in the height of thymus activity, and not, like Basch's animals, in the period of involution of the organ. By working with puppies from ten to twenty days old, and by observing them over longer periods, he was able to obtain results even more striking than those of his predecessor. The alterations after removal of the organ could be divided with some readiness into several distinct phases. Following an initial latent phase of about two weeks, there came a period of from two to three months characterized by marked increase in adiposity, excessive eagerness for food, and diminished activity and muscular strength. Next came a period of rapid loss of weight, and of muscular and bony strength, although the animals still ate eagerly. Psychically they degenerated until they became practically idiotic. This stage lasted, in different animals, from three to fourteen months, and ended in death preceded by coma. A study of the bones made during the later stages showed marked osteoporosis, with multiple cysts in the spongy parts, and irregular and indefinite limitation of the compact portions. Also there was irregular thickening of the epiphyseal cartilages, and deficient linear growth. Along with these changes, there was a pronounced tendency to spontaneous fracture, followed as a rule by fibrous callus formation only. With the anatomic alterations in the bones there was a corresponding chemical change. While the bones of the control animals showed 65 per cent. of calcium salts, the animals operated on had only from 32 to 34 per cent. This diminution was at the expense of all the calcium salts alike, as the relations between the mineral constituents of normal bone were not altered. The brain also showed definite changes; it was relatively large, and markedly edematous. Klose believes that the changes can all be explained on the basis of an acidosis, acting on the bones by draining them of their lime salts, and acting on the nervous tissues by increasing their affinity for water. In view of the great content of nucleins in the thymus, he believes that nucleic acid may be specified as the offending agent, and regards the thymus as furnishing a site for the synthesis of the nucleins, with accompanying neutralization of the nucleic acid. That there would be an excessive nucleic acid metabolism at the time of greatest growth, corresponding with the period of thymus activity, is self-evident. From the fact that his experimental animals showed at first splenic hypertrophy with later degeneration, Klose concludes that it is the spleen which in later life, after the period of greatest stress, assumes the function of the thymus. Additional support for this view is afforded by the association of hypertrophy of the spleen and lymphoid tissues with that of the thymus in the "status lymphaticus," and by the fact, to which Rachford[4] calls attention, that on exposure of the thymus alone in this condition to the *x*-ray, the decrease in size of the thymus is accompanied by that of the other organs as well. Klose calls attention to the similarity between the osseous findings in his thymectomized animals and those in cases of human rickets and osteomalacia. While at this time no definite rôle can be assigned to the thymus in the production of these diseases, the analogy is too striking not to deserve attention, particularly with diseases of such obscure etiology.

As regards the "thymic death," the conditions shown by surgery seem to justify the conclusion that this is mainly mechanical in character, by pressure on the trachea or large vessels by the enlarged organ. Nevertheless, in view of the pronounced physiologic processes which his work appears to assign to the thymus, Klose believes it probable that altered functional activity plays at least some part in the causation of death. As accessory thymus tissue occurs in the human being in and around the thyroid, and as this is capable of rapid hypertrophy, the surgical extirpation of the organ in the human being in all probability seldom can evoke such results as occur in the dog.

INDUSTRIAL DISEASES

The State of Illinois has recently made an important contribution to the literature of industrial hygiene. About a year ago, the Illinois Commission on Occupational Diseases[1] began its work of investigation and the results of this investigation together with recommendations for the legal regulation of certain dangerous trades have been sent to the governor of the state.

We understand that though other states have made formal inquiry into industrial accidents, Illinois is the first to attempt a study of industrial diseases.

The commission had only about ten months in which to work and wisely decided to make an intensive study of one or two restricted fields, such as that of industrial poisons and of caisson disease, rather than to make a general survey of the whole subject. By choosing the poisonous trades rather than the dusty trades they were able to show clearly the causal connection between occupation and disease. The dusty trades are really the most important numerically considered, but the question of morbidity in these trades is always closely bound up with housing conditions, standard of living, etc., and the influence of the trade itself is less clearly demonstrable. In caisson disease we have a clearly marked trade disease.

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[3] Arch. f. Kinderh., 1910, lv, 1.

[4] Tr. Assn. Am. Phys., 1910, xxv, 570.

[1] Report of Commission on Occupational Diseases, C. R. Henderson, secretary, University of Chicago. The commission consisted of the following persons: George Webster, M.D., president of the State Board of Health, chairman; Charles R. Henderson, University of Chicago, secretary; Ludvig Hektoen, M.D., Memorial Institute for Infectious Diseases; Walter S. Haines, M.D., Rush Medical College; W. H. Allport, M.D.; James Simpson, Marshall Field & Co.; and the following state officials: Chief Factory Inspector Edgar T. Davies, Secretary State Board of Health J. A. Egan, M.D.; Secretary Bureau of Labor Statistics David Ross.

The appropriation granted to the commission was expended almost entirely on the field work of investigation, office room being donated by the university and laboratory facilities by members of the commission. Twenty-one investigators were employed, including eleven physicians and ten laymen, the former taking up the hygiene of the different trades and the physical condition of the work-people, the latter investigating factories and examining records of hospitals, dispensaries and sick-benefit societies.

The poisonous industries to which most study was devoted are the lead trades (Alice Hamilton), the brass and zinc trades (Emory R. Hayhurst) and the trades involving exposure to carbon monoxid (M. Karasek and G. Apfelbach), these being important industries in Illinois employing large numbers of workmen. In addition, there are short papers on arsenic, turpentine, the cyanids, hydrofluoric acid, nitrate of silver, metol, platinum, the chromates and chromic acid.

The report on the lead trades shows that this metal is used to an enormous extent in modern industry and that lead poisoning is probably in Illinois, as it has long been known to be in Europe, the most important industrial disease. The list of trades in which lead poisoning was found to have occurred numbers twenty-eight, but the classification of these trades is not very carefully made, and if industrial processes were counted instead, it is probable that the number would come not far from 120, which was Thomas Oliver's estimate of the number of processes in which lead is handled in Great Britain. Several trades are included in this list which the ordinary man does not think of as lead trades. For instance, the making of storage batteries is described as one of the most dangerous; in Europe, this trade is strictly regulated by law. The work of commercial artists is said to involve a fairly large amount of lead poisoning owing to careless methods of using the white paint which the artists suppose to be a harmless zinc white. Apparently physicians are sometimes led astray in their diagnosis of these cases, for their patients assure them that they have never been exposed to lead poisoning, although the investigators found that all but four of the seventy-four engraving establishments visited used white lead paint.

Other unfamiliar lead trades are the making of lithotransfers for pottery, the polishing of cut glass, making and hanging lead-colored wall-papers, enameling bath tubs, and laying electric cables. Five hundred and seventy-eight individual cases with six suspected cases are reported as having occurred in Illinois during the last three years in these twenty-eight trades, but it is stated that this figure represents only a fraction of the real number, for it was impossible to obtain even approximately accurate information as to any trade except the well-organized plumbers, and the partially organized printers and painters. The remaining lead workers are said to be composed largely of newly arrived foreigners "who enter on the work utterly ignorant of its dangers, or with only a vague, unintelligent dread." They are "a notoriously unsteady, shifting class," and "as it is only with a steady force of workmen that the oversusceptible can be weeded out and the others trained to protect themselves, it follows that this shifting of men from place to place is productive of far more poisoning than would occur among a permanent force of men." The investigators find that for the most part very little care is taken of the men employed in the dangerous lead-trades and statistics are given to demonstrate the contrast between European conditions and those in Illinois.

"In one English white lead factory employing 182 men, careful medical inspection failed to discover one case of lead poisoning in the year 1909-10. In an Illinois factory employing 142 men partial inspection revealed twenty-five men suffering from lead poisoning last year. In another English factory employing ninety men no case was discovered for five successive years. In an Illinois factory employing ninety-four men 28 per cent. of all employees have had lead poisoning and 40 per cent. of all employed in the dustier work."

Dr. Hayhurst's report on the brass industry includes a study of "brass-founders' ague," an industrial disease which has been the subject of much controversy in Europe, some authorities even denying that there is an affection peculiar to this trade. The description of symptoms given by Dr. Hayhurst is detailed and clear, but it would be more convincing had he given his personal observation of some one case. Probably the fact that the paper was written for a lay audience made him confine himself to more general statements. He agrees with the generally held opinion that the "ague" is caused by the sublimation products of zinc.

The brass industry in Illinois is apparently in as much need of hygienic regulation as the lead industries, for the prevention of brass-founders' ague seems to be simply a question of the proper removal of fumes. "In large foundries with good ventilation, either natural or artificial, brass chills practically never occur." But the investigators found that only four of the eighty-nine foundries visited could be classed as well-regulated and free from trade sickness, sixty-three were acknowledged to be centers of trade sickness and seven were suspected to be equally bad. Of 189 men from seventy-eight foundries who were examined by Dr. Hayhurst, 146 complained of some sickness traceable to their employment. forty-five had had "brass chills." As brass founders are also exposed to the action of arsenic, antimony, phosphorus, lead and the cyanids, brass ague is not the only industrial disease to which they are subject.

The newly employed men are said to be more susceptible to ague; the older men acquire a certain tolerance, but there is apparently a chronic form of poisoning which shows its effects on the lungs, digestive tract, kidneys and nervous system. Dr. Hayhurst's statistics as to longevity are almost startling. Of 1,761 foundry men, only seventeen were over 50 years of age.

The study of carbon monoxid poisoning is of great interest. Ample material was found in the great steel works of western Illinois where this gas is produced during the smelting of the iron ore with coke and lime. The symptoms of acute poisoning are much like those of ether narcosis, and if the sufferer is rescued in time an apparently complete recovery occurs. Drs. Karasek and Apfelbach undertook to determine the effect of frequent or constant exposure to smaller amounts of gas, chronic carbon monoxid poisoning. For this purpose they examined 240 steel workmen, and found them for the most part in poor physical health and with deficient muscular power, as indicated by the hand dynamometer. A careful control examination made of men of the same nationalities engaged in similar work, but not exposed to gas, showed that the gas workers had actually less muscular strength, a fact which "means a large economic loss in the numerous industries where workers are exposed to carbon monoxid."

Blood examinations of sixty-eight steel workers showed that "in practically all those exposed to blast gas there was a polycythemia numbering between 5,500,000 and 9,600,000. No embryonal or other unusual forms of red cells were present. Seemingly this is a conservative action on the part of the system whereby the harmful effects of the gas are mitigated and great toleration established."

The industrial hygienists of Europe are always reproaching us with our failure to collect data on industrial diseases in the United States. Let us hope that the report of the Illinois Commission will prove to be the first fruits of a widespread effort to make up for our former shortcomings in this respect.

THE NAME "EPINEPHRIN" VERSUS THE NAME "ADRENALIN"

There are thirty or more different brands of the blood-pressure-raising principle of the suprarenal gland on the market, five being in this country alone. These products are identical so far as their chief constituent is concerned; they differ, however as to the solvent and the preservative used. The processes of manufacture of some of them are patented; all of them are sold under trade names.

Until two years ago there was no common name applicable to this active principle; whenever reference was made to it a trade name had to be used. At that time the Council on Pharmacy and Chemistry, realizing the need of a generic term, adopted "epinephrin" as such a term. This name was selected in part because Abel had adopted it in 1899; in part because, so far as could be discovered, it was the name under which, through Abel's publications, the substance first appeared in medical literature; and in part because it seemed to be the only suitable one not already appropriated by some commercial firm.

After the publication of the Council's report, THE JOURNAL began gradually to use the term in those cases in which it seemed clear that the proprietary term was used in a generic sense. The substitution of the name "epinephrin" for "adrenalin" in the abstracts of certain foreign articles caused Parke, Davis & Co. to write a letter of protest which called forth the discussion appearing in the Propaganda Department of this issue.

The amount of space devoted to this matter may be criticized and considered unwarranted by those who do not realize the importance of the subject. The criticism is, to a certain degree, just. The somewhat inordinate length of the article is due in part to the unfortunate fact that, in availing themselves of the courtesy extended by THE JOURNAL, Parke, Davis & Co., in their reply, have injected into the discussion side-issues, such as the priority of discovery, the superiority of their product, etc., whereas, the question under discussion is simply that which relates to the name. It is, however, not altogether a matter for regret that the discussion has been thus broadened, for it brings before our readers many facts regarding the discovery of an important medicinal agent that are not generally known, at least by physicians.

Whether or not "adrenalin" is superior to "adrin," "suprarenalin," "suprarenin," "adnephrin," or to any other of the preparations is entirely immaterial in this connection. The point is that the active principle of the suprarenal gland is on the market under various trade names, and that a name common to all has been selected to be used when no particular brand is referred to. The fact that "adrenalin" is regarded by many, both here and abroad, as a common, generic name does not alter the fact that it is claimed as a trade name by a commercial house and, therefore, presumably at least, cannot be used except as such.

Among the facts brought out in this discussion, one stands out clearly: that Abel deserves as much credit for the discovery as any other man, if not more. Credit belongs to Takamine for making use of reactions which were already well known. His work was a step in the progress of knowledge of the substance, but it was a step which he could not have taken but for what others, Abel especially, had accomplished and published. Abel's magnificent work, covering several years, deserves as much credit, to say the least, as that of Takamine. And it should be kept in mind that the former worked in the interest of science, and published his results for the benefit of all. He had no hope of pecuniary reward, asked for none, and received none.

Let us repeat, however, that these are side issues; the question is simply that of name. It cannot be too strongly emphasized that "epinephrin" is a true scientific name for the active principle of the suprarenal gland, and that it should be used on all occasions when the active principle and not some particular firm's make is referred to.

Current Comment

A FIFTH YEAR AS A HOSPITAL INTERN

Probably the next important advance in medical education will be the requirement of a fifth year to be spent by the student as an intern in some good hospital. In the majority of our better colleges even now most of the graduates are obtaining internships and it is claimed that there are more opportunities for such positions than the colleges are able to fill. It is also stated that the students who do not accept such internships, as a rule, are the very ones who should be required to take that work. Therefore, the requirement of the fifth year as a part of the course for the medical degree, in such institutions at least, could easily be brought about. In some states, however, where colleges have desired to make this additional requirement, they cannot do so because of the wording of the medical practice acts. In these states the law provides that only graduates of medical colleges may obtain licenses and that only licensed physicians can serve as interns in hospitals. Thus the colleges are unable to withhold the degree until after the fifth year is completed. A way out of this difficulty would be to secure an amendment to the medical practice act such as is being sought in Illinois. This amendment provides that the board in its discretion can admit to its examination a student who presents a certificate from a reputable medical college, showing that he has completed four years in medicine and has passed the examinations of that college. If it should be considered necessary or advisable, the state board could issue a limited license authorizing him to practice medicine and surgery in a hospital, this limited license to remain in effect for a period not exceeding eighteen months and to be exchanged for the permanent license as soon as the student has completed his internship and obtained his M.D. degree. Surely, an arrangement of this sort would in no way lower the standards of medical licensure in any state; on the contrary, it would strengthen the practice act and aid in securing better qualified physicians. The time is rapidly approaching when no one should enter on the practice of medicine without first having completed a year of clinical training under the direction of the attending staff of some good hospital.

POSITIVE RESULTS OF SANE FOURTH AGITATION

Over eight years ago, THE JOURNAL published its first report, showing that as a result of the use of fireworks in the celebration of the Fourth of July in that one year, 466 persons were killed and nearly 4,000 injured. Of those killed, over 400 died from tetanus, probably the most awful death known in modern times, while of those injured, many of them were blinded, or had their arms, legs, hands or fingers torn off, or were otherwise mutilated for life. For a few years previously a prominent newspaper, the *Chicago Tribune,* had been publishing, as a news feature, the immediate results of the celebration, but the complete figures, including the deaths from lockjaw, were not presented until in 1903 THE JOURNAL published its first report. This report, awful as it was, scarcely disturbed the self-complacency with which these matters then were viewed, and apparently any criticism of the methods of celebrating the anniversary of the signing of the Declaration of Independence was looked on as unpatriotic. But year after year THE JOURNAL has persisted not only in revealing the horrifying results of the use of fireworks, but also in pointing out how silly and inexcusable was a "patriotism" which demanded each year such a wanton destruction of life and limb. Gradually, however, results began to be seen. At first a few cities adopted prohibitive or restrictive measures with such positive reductions in the number of killed and injured that other cities have followed suit. The most positive evidence of the nation-wide movement for a sane celebration and for the lessened use of fireworks, is the dissolution of the Pain Manufacturing Company, the largest and best known fireworks firm in the country. Here is what the firm says regarding its failure:

> The season for the business conducted does not commence until June and runs for several months; the main business is done around and immediately previous to the Fourth of July each year. For the last years, or since the movement for what is commonly termed the "sane Fourth" has spread over the country, the value of the business done by the company has been reduced, so that at the present moment the amount of business the company is enabled to do is not sufficient to warrant the company's continuance.

Although one may have sympathy for those who have lost money or fortunes in the failure of this business enterprise, there is reason to rejoice, nevertheless, in the change of sentiment regarding the use of fireworks in our celebration which means, in future, the saving of thousands of lives, the prevention of many thousands of accidents and the saving from destruction by fire of property worth millions of dollars. It is gratifying to note, also, that instead of being continued as a hideous nightmare of disorder, danger and tumult, our Independence Day is being changed into a day for the development of genuine patriotism—respect for law and order, and pride in our national achievements.

NEITHER CLEVER NOR TRUTHFUL

The attempts of the lay press to comment on medical subjects are often most amusing when most seriously intended. Enjoyment of the unconscious humor in otherwise rather feeble witticisms like some which have recently appeared in *Life,* is hampered by the fact that these gibes at medical science are sometimes not only absurd, but viciously and maliciously untruthful, and if they were seriously regarded, might result in public injury. For instance, *Life* comments as follows on the recent report that a Russian physician had committed murder by the use of diphtheria germs:

> "Why, in the name of common sense, didn't he employ typhoid fever 'germs' in the pretense of immunizing the count from ever having that disease, as our army surgeons are doing with all soldiers and sailors who 'volunteer'—under the pressure of the anger of their superior officers in case of refusal? Every such inoculation makes the lads ill ('reaction' is the technical term), and occasionally one of them will pass on, as the saying goes."

The item is headed "Not Clever." It should have been "Neither Clever nor Truthful." *According to the* surgeon-general of the Army, about 20,000 antityphoid inoculations have been made in the Army of the United States. Of these, 85 per cent. caused no disagreeable symptoms whatever; 4.5 per cent. caused headache and slight temporary fever; and 0.5 per cent. more severe symptoms lasting several days; but in not a single instance has the procedure had any effects that could be called dangerous. There has been no death from this cause. The protective results of antityphoid vaccination in European armies, especially in the British army in India, have been so favorable as to warrant the continuance of inoculation. The comments of *Life* show glaring ignorance. We do not expect scientific accuracy from that publication, but even clowns should strive to keep within the bounds of common honesty by being truthful when they attempt to deal with serious matters, especially those which have a practical bearing on the public welfare.

AN "ALL-ROUND SPECIALIST"

Few there are who have looked to see a reincarnation in these days of the sage who took "all knowledge for his province." Viewing the vast and hitherto undreamed-of realms brought to human cognizance by specializing discoverers, timorous souls have believed—and the belief has become all too general in learned circles—that the complete mastery of even the complex science of medicine in all its divisions and branches was not to be expected of one human brain. It is now plain to be seen that we have despaired too soon. A prodigy has arisen in the west who announces himself on his letter-heads as an "All-Round Specialist." We should like to feel that the nursery of genius which produced the "All-Round Specialist" was engaged in fostering others of the same remarkable stock. We should then hear no more of the much-vexed problem of the division of fees between the specialist and the general practitioner, while the tedious distinctions between psychiatrist, ophthalmologist, pediatrist, gynecologist, dermatologist, and all the other medical specialists, would melt away like mist before the morning sun. Unfortunately, we are unable to find this gentleman's name on the alumni list of any medical college; so we fear that there is no hope for the present of a school of pan-specialists.

PROFESSOR VINCENT AND HIGHER EDUCATIONAL STANDARDS

If all statements appearing in the public press may be judged by those regarding the recent address by Prof. George E. Vincent,[1] then, indeed, very little confidence should be placed in newspaper reports. By quoting only the first part of a paragraph, the reports made it appear that Professor Vincent opposed higher standards of medical education, although a reading of the entire paragraph shows that the opposite is true. In fact, the address as a whole contains a severe arraignment of those who are opposing higher standards. Professor Vincent points out that one danger in raising educational standards—namely, limiting "the field of choice to those groups which can afford the cost of long and expensive preparation," which "socially and professionally . . . would be deplorable"—could be offset by establishing "a system of scholarships" which could be "awarded by competent authority, after adequate tests, and continued only so long as the scholar's work justifies the support." It can be seen how easily a wrong impression could be conveyed by omitting the latter part of the paragraph. And that is what was done in the newspaper reports. This misquotation might have passed without comment, except for two reasons. The first is that Professor Vincent is soon to take the presidency of the University of Minnesota and, therefore, his views will have much to do in shaping the future educational policy of that state. The second is that Minnesota is on the firing-line in the fight for higher standards of medical education, and the enemies of such standards have widely circulated this erroneous report of Professor Vincent's views in an effort to obstruct the movement for higher standards. In the paragraph just preceding the one misquoted, the speaker makes special reference to those who are opposing higher standards of medical education. He shows these to be self-interested persons who look on the "medical career chiefly as a means of livelihood," and who "resent the rising standards . . . as obstacles to the early enjoyment of an income." It is important that this misquotation should be corrected, and especially that the people of Minnesota should appreciate the fact that in Professor Vincent they will have an able champion in their battle for higher standards of medical education.

STREET DUST AND FOOD

House Bill 154, now before the Illinois legislature, contains some provisions which will scarcely be welcome to street vendors of goods and delicacies, and probably not to the larger retail dealers. Among these are provisions to suppress the nuisance of the exposure on the streets, without protection from the street dust or other contamination, of fruits, vegetables and other foods. It is unfortunate that the average buyer has not that keen realization of the history and composition of street dust which, if generally diffused, would make goods so exposed unsalable. On the contrary, dealers complain that their sales are lessened if they do not so expose their wares. Instruction in the schools, showing the sources and components of street dust, as well as the peril of insect contamination, might be an effective way of agitating the subject and reaching homes where at present even newspapers do not penetrate freely—not that the illiterate are the only persons who ignore the dangers of street dust. To make them effective, the excellent provisions of this bill should be reenforced by popular education, since it will be most difficult to enforce in those quarters where enforcement is most needed.

Fibroids and Pregnancy.—A fibroid projecting into the uterine cavity—that is, a fibroid inside of the uterus—usually acts as a barrier to pregnancy, and if this does occur an abortion is likely to follow.—M. A. Tate, before Obstet. Soc. of Cincinnati.

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[1] Standards and Authority, p. 894, this issue.

Medical News

ILLINOIS

Personal.—Fire at Abingdon, March 11, destroyed the office equipment of Drs. Charles F. and Everett H. Bradway, the loss being estimated at $1,000.——Dr. Barret B. Griffith, Springfield, who has been in Colorado Springs for several months on account of ill health, reports that he is slowly recovering from the injury to his foot.

Hospital Notes.—The John Warner Hospital, Clinton, is open for the reception of medical and surgical cases. Patients entering the hospital will be under the control of their own physicians as the hospital has no attending staff.

Chicago

Healer Fined.—A jury in the municipal court, on March 14, is said to have returned a verdict assessing a fine of $200 against Mrs. M. Selike, a Milwaukee Avenue healer.

Personal.—Dr. Svenning Dahl, while attempting to get into a moving elevator at the Norwegian Lutheran Deaconess Home and Hospital, March 14, fell, sustaining a compound fracture of the right leg.

INDIANA

Tuberculosis Hospital Almost Ready.—It is announced that the State Tuberculosis Hospital, Rockville, will be ready to receive patients, April 1.

Dispensary Opened Twice a Week.—It is announced that the Free Dispensary of St. Mary's Hospital, Evansville, will now be open on Tuesday and Friday afternoons between 3 and 4 o'clock.

Semi-Centennials.—Dr. Carter H. Smith, Lebanon, was the guest of honor at a banquet given by the Boone County Medical Society, March 7, on the occasion of his completion of half a century in the practice of medicine.——The semi-centennial of the practice of medicine of Dr. William B. Graham, Noblesville, was celebrated, March 14, at a banquet tendered Dr. Graham by the Hamilton County Medical Society.

Personal.—Dr. and Mrs. Bleeker J. Knapp, Evansville, sailed for the Mediterranean, March 4.——Dr. Orange G. Pfaff, Indianapolis, who has been seriously ill with septicemia, is now reported to be improving.——Dr. John S. Whitson, Jonesboro, was thrown from his automobile when it was struck by a trolley car, March 15, but sustained only slight injuries.——The trustees of Indiana University have acted favorably on the request of Dr. Henry R. Alburger of the medical department, to come to Indianapolis and assume the position of pathologist at the City Hospital.——Dr. David H. VanNuys is reported to be seriously ill at the home of his son in Anderson.——Dr. Charles S. Goar, Indianapolis, while crossing the railroad tracks, March 17, was struck by a switch engine, but was not seriously injured.

MARYLAND

New Officers Elected.—The section on Neurology and Psychiatry of the Baltimore City Medical Society, at its annual meeting, March 10, elected Dr. Arthur P. Herring, president; Dr. G. Lane Taneyhill, secretary, and Dr. William R. Dunton, a member of the executive committee.

Personal.—Dr. H. Barton Jacobs sailed for France, March 18.——Dr. William H. Welch has been honored by the emperor of Germany with the decoration of the royal crown of Prussia, second class.——Dr. Christopher Johnston, professor of Egyptology in Johns Hopkins University, is ill with organic heart disease.——Dr. George F. Speicher, intern at the Maryland General Hospital, was operated on at the hospital, March 6, and is reported to be doing well.

The Recent Diphtheria Epidemic.—Dr. William H. Welch, professor of pathology in Johns Hopkins University, delivered an address to the medical students in Hopkins Hospital, March 13, in which he reviewed the recent diphtheria epidemic. He stated that of the sixty-three persons who gave positive cultures, about forty showed symptoms of the disease, while the others were carriers. There were only two deaths, both in cases of children who were already victims of malignant disease. Dr. Welch complimented the hospital staff on the energetic way with which the diphtheria epidemic had been handled. No new cases have developed at the Johns Hopkins Hospital or at the Church Home and Infirmary, and these institutions as well as the Hebrew Hospital are open as usual. A case developed, March 15, at University Hospital, but the patient was promptly isolated and no other case occurred. Two cases have also been reported among the lodgers at the Central Young Men's Christian Association, but the patients were promptly sent to the Infectious Disease Hospital.

MICHIGAN

Antituberculosis Society Organized.—Manistee County Antituberculosis Society has been organized with Prof. S. W. Baker as president, and Dr. Szymon Szudrawski, Manistee, as secretary, and has begun an organized campaign against the disease. Dr. Alfred S. Warthin, Ann Arbor, will deliver two lectures before the society in April.

Personal.—Dr. Charles A. Walsh, Bay City, is reported to be in a critical condition from cerebral hemorrhage.——Dr. Herbert A. Eades, Bay City, was thrown from his automobile, March 13, receiving bruises and cuts.——Dr. Robert H. DeCoux, Grand Rapids, was thrown from his buggy in a runaway accident, March 8, fracturing three ribs and a clavicle.

State Sanatorium.—Admission to the State Sanatorium, Howell, is obtained after examination by physicians appointed for each county, and on furnishing a certificate by the family physician. A charge of $7.00 per week is made to those who are able to pay, but those who are unable to pay will be provided by the state with free care on proper certification from the superintendent of the poor and the judge of probate. No patient is allowed to remain longer than six months in the sanatorium save in unusual cases. It must be understood that the institution is for patients in the incipient stage of pulmonary tuberculosis, and in which a cure or arrest may be hoped for.

MINNESOTA

Interns Leave Hospital.—Three interns at the Swedish Hospital, Minneapolis, resenting the suspension of another intern, are said to have abandoned their work and left the hospital, February 25.

Speed Parting Guest.—Dr. Edward M. Gans, Eveleth, was the guest of honor at a dinner given, February 28, at which about 100 were present. Dr. Gans has severed his connection with the More Hospital and is about to move to North Dakota.

Deficiency Appropriation.—The senate committee has recommended that deficiency appropriation of $13,000 be made to enable the State Board of Health to continue its fight against tuberculosis.——The bill to appropriate $8,000 for the continuance of the work of the State Tuberculosis Commission was recommended for passage by the Senate Committee on Public Health, March 3.

NEW YORK

Medical Women Meet.—At the fifth annual meeting of the Women's Medical Society of New York State, held March 10, in the Academy of Medicine, New York City, Drs. Elizabeth M. Cushier, Manhattan, and Eliza M. Mosher, Brooklyn, delivered memorial addresses in honor of the late Drs. Elizabeth and Emily Blackwell. The following officers were elected: honorary president, Dr. Eliza M. Mosher, Brooklyn; president, Dr. Grace Peckham Murray, Manhattan; vice-presidents, Drs. Helene J. C. Kuhlmann, Buffalo; Angenette Parry, Manhattan, and Evelyn Garrigue, Millbrook; secretary, Dr. Eveline P. Ballintine, Rochester, and treasurer, Dr. Marion Craig Potter, Rochester. A banquet was given to the visiting delegates in the evening, over which Dr. Eliza M. Mosher presided.

Buffalo

Hospitals Opened.—The Ernest Wende Hospital, the temporary municipal hospital for contagious diseases, which has been renovated and newly equipped, is ready to receive patients.——The new contagious disease pavilion of the Children's Hospital is completed and ready to receive patients.

Personal.—Dr. Francis C. Goldsborough, formerly instructor in obstetrics at Johns Hopkins University, Baltimore, has succeeded Dr. Matthew D. Mann as professor of obstetrics at the University of Buffalo.——Dr. Archibald D. Carpenter has been elected chairman of the Civil Service Commission.——Dr. John D. Howland, deputy medical examiner of Erie County, has been appointed superintendent of the Erie County Hospital, vice Dr. Carroll J. Roberts, who has gone abroad.——Dr. Pierce J. Candee is ill with typhoid fever.——Dr. George B. Stocker has been appointed deputy medical examiner of Erie County.——Dr. Daniel V. McClure has been certified by the State Civil Service Commission at the head of the list of successful candidates at the recent competitive examination for medical superintendent of Erie County Almshouse.——Dr. Edward J. Meyer, who was operated on for hernia and appendicitis at St. Mary's Hospital, Rochester, Minn., February 13, is convalescent.——Dr. William H. Mansperger, who was recently operated on at St. Mary's Hospital, Rochester, Minn., is reported to be convalescent.

New York City

Middleton Goldsmith Lecture.—The Middleton Goldsmith Lecture of the New York Pathologic Society was delivered at the New York Academy of Medicine, March 18, by Prof. Frank P. Underhill, Yale University, on "A Consideration of Some Chemical Transformations of Proteins and Their Possible Bearing on Problems in Pathology."

Personal.—Dr. John N. Beckman, a retired practitioner, was knocked down by a truck at East Fourteenth Street, March 13, and painfully injured.——Health Commissioner Lederle returned from a vacation in a houseboat in Florida, March 12. ——Dr. Robert S. Adams, house physician at the Waldorf-Astoria, is reported to be seriously ill at Murray Hill Sanitarium.——Dr. Burt D. Harrington, Brooklyn, is reported to be critically ill with erysipelas.——Dr. Godfrey R. Pisek has been appointed attending physician to the Willard Parker Hospital.

For the Control of Venereal Diseases.—At the meeting of the New York Obstetrical Society, held March 14, the subject for the evening was "Some of the Duties of the Gynecologist to the State and Public." The following resolution was adopted: Resolved, That it is the opinion of the New York State Obstetrical Society that the time has come to make a beginning in the control of venereal diseases: That the first necessity is for the provision of a place for the detention and care of flagrant and especially dangerous cases: That in pursuance of this object the Board of Estimate and Apportionment be requested to grant the request of the Board of Health for the provision of such a hospital.

Meningitis on Liner.—The Greek steamship *Patris* arrived at quarantine with five cases of cerebrospinal meningitis. Six other passengers died from the disease at sea. Dr. Alvah H. Doty said that for several years he had been watching for this disease and had found that as a rule it is brought on steamships from Greece.——On the steamship *Martha Washington*, which arrived a few days later from Trieste, Patras, Palermo and Algiers, there were four steerage passengers who seemed to be suffering from cerebrospinal meningitis and one passenger had died at sea whose symptoms were those of meningitis. All the patients were treated with Flexner's serum and the steamer will be held at quarantine until bacteriologic examinations have been made.

Health Bulletins.—The first of the three latest press bulletins of the Department of Health deals with fresh air, which is a great preventive of many infectious diseases, and states furthermore that the polluted atmosphere of ill ventilated rooms is one of the important factors in promoting the spread of diseases; the second warns the public, particularly those living on the lower East Side, against the danger from the use of wood alcohol which is mixed with cheap drinks by certain unscrupulous and criminal proprietors of barrooms and itinerant venders; and the third, details the work of the department in the supervision of midwifery, and states that out of 129,031 births reported in the city in 1910, 52,010 were under the care of midwives. Since February 15 a new system has been inaugurated and put in effect by the Division of Child Hygiene. The city has been divided into 140 districts, corresponding to the school inspection districts, each under the charge of a medical inspector. Each inspector has a card index of each midwife in the district, and visits each midwife at least once a month. Any irregularity in equipment or manner of work of the midwife, or any insanitary condition in their homes is at once reported by the inspector. Investigations are made in all cases in which complaints are made.

Announcement of the Monthly Bulletin.—The ultimate object of all public health work is the preservation of health and the prolongation of life. As there can be no subject of more vital interest to each individual, the Department of Health desires the cooperation of every citizen, and presents the Bulletin as a means towards this end. It was interesting to note a steady fall in the death-rate from 28 per 1,000 in 1868 to 16 per 1,000 in 1910. From another table it was interesting to note the enormous reduction in mortality which had taken place in those whose ages were below 45; there had been no decline but an increase in the mortality in the ages over 46. While there has been a decided reduction in the mortality from smallpox, typhoid fever, diphtheria and pulmonary tuberculosis, there has been but little change in the mortality from measles, scarlet fever and bronchitis, and there is an increase in that from pneumonia, cancer, Bright's disease and heart disease. The division of communicable diseases is charged with (a) the sanitary supervision of tuberculosis, typhoid fever, cerebrospinal meningitis, malaria, puerperal septicemia, abortion and erysipelas; (b) the conduction of tuberculosis clinics and boat camps; (c) the administration of antitoxin and the performance of intubation in diphtheria; (d) the management of the diagnosis laboratory, and the collection of specimens from branch stations throughout the city. The division of child hygiene has the following functions: (a) the control of the practice of midwives; (b) the supervision of foundlings; (c) the supervision of day nurseries and institutions for the care of dependent children; (d) the care of babies and prevention of infant mortality; (e) the medical inspection of and examination of school children; (f) the issuance of employment certificates.

PENNSYLVANIA

Personal.—Dr. John W. Beckett, Pittsburg, was struck by a trolley car, March 10, and seriously injured.——Dr. William M. Johnson, a retired practitioner of Harrisburg, is said to have been adjudged insane by the county court of Davidson County, Tenn.

New Medical Club.—The physicians of York have organized the York Medical Club with an initial membership of forty-five, and elected the following officers: president, Dr. Edward W. Brickley; vice-president, Dr. Lawton M. Hartman; secretary, Dr. William S. Weakley, and treasurer, Dr. Parker N. Wentz.

White Haven Report.—At the annual meeting of the White Haven Sanatorium Association, held March 13, Dr. Lawrence F. Flick, the president, announced the completion of an administration building, the completion of which added $11,000 to the debt of the association, making a total debt of $25,000. Last year 552 patients were admitted and a total of 683 patients treated. Of these 477 left or were discharged and there were 38 deaths. The report also showed that in 31 cases the disease was arrested; in 50 cases much improved; in 254 improved; of the other patients, 106 were not improved and one-third of these left the first month. The average cost of maintenance per patient per week was $8.81 and the total amount expended for maintenance was $67,282.99. The total receipts, including the balance for last year, was $112,000. The total expenditures for the year were $109,487. There was a loss of nearly 12 cents daily in the maintenance of each patient. There are 206 beds available for patients, of whom there have been 5,550 since opening. A building has been donated by Mrs. Eckley Coxe for the care of patients received in a dying condition.

Philadelphia

Medico-Chirurgical's New Building.—Plans are being prepared for several new buildings for the Medico-Chirurgical College, to be built on the south side of Cherry Street, between Seventeenth and Eighteenth Streets. The first building will be a one-story structure with a glass roof to be used for laboratory purposes. A fifth story will also be added to the present dispensary building on Cherry Street. Plans have been completed for the erection of a large corrugated-iron building on the lot adjoining the Medico-Chirurgical Hospital. The first use to which the addition will be put will be a bazaar and fair, to be held from May 29 to June 3 for the benefit of the hospital.

Personal.—Dr. George E. deSchweinitz announces that there is no basis for the rumor that he intends to resign the chair of ophthalmology in the Medical School of the University of Pennsylvania.——Dean Allen J. Smith, of the University of Pennsylvania, closed a series of popular health lectures, given under the auspices of the medical faculty, March 17. His talk was on "Flies and Other Insects as Carriers of Disease."——Dr. L. Webster Fox, who has been ill at his home in Haverford, is convalescent.——Dr. W. E. Kepler has been appointed an assistant medical inspector by Director Neff of the Department of Health and Charities.——Dr. Joseph S. Neff, Director of Public Health and Charities, who was injured by a fall in Atlantic City, March 13, has completely recovered.

VIRGINIA

New College Building.—It is reported that the University College of Medicine, Richmond, has placed the contract for the erection of a new college building to replace the one destroyed by fire in January last year. The new building will cost about $135,000, and will be completed within a year.

Epileptic Colony.—The recent decision of the state supreme court against the Western State Hospital board in its efforts to retain the Muckland property, Lynchburg, means that the property may be sold and the proceeds used for the development of the State Epileptic Colony, which already has been opened with 100 inmates.

Station at Sanatorium.—The Norfolk and Western Railroad has ordered a station to be erected at the Catawba Road crossing for the accommodation of patients and others en route to the State Sanatorium. The company has also put on an extra train on Tuesdays and Fridays for Catawba, which will meet the main-line trains.

WISCONSIN

Cottages for Isolation Hospital.—The city council of Racine has reported favorably on the appropriation for the construction of two cottages on the Isolation Hospital property south of the city for the care of individuals suffering from communicable diseases.

Personal.—Dr. John B. Spaulding, health officer of Kenosha, sustained severe injuries to his eyes by the breaking of a bottle of formaldehyd which he was using while making a fumigation.——Dr. Henry T. Brogan, city physician of West Allis, who has been critically ill with heart disease, is reported to be out of immediate danger.——Dr. Henry Blank, Milwaukee, has been appointed a trustee of the Johnston Emergency Hospital, vice Dr. Louis Fuldner, resigned.——Dr. Rollo U. Cairns, River Falls, has returned from abroad.——Dr. Gilbert E. Seaman, Milwaukee, has been appointed regent at large for the Milwaukee University.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, March 11, 1911.

A New Reportable Disease

The London County Council has issued an order making ophthalmia neonatorum a reportable disease. Thus, as in cases of the specific fevers, immediately on diagnosis a case must be reported to the health officer. The object is that more effectual means may be taken for its prevention and treatment.

Plague in India

According to the latest reports, there seems every indication that India is again entering on another grave epidemic of plague. During the week ended February 11, 24,715 cases and 22,278 deaths were reported. Of these deaths 11,116 occurred in the United Provinces. In this district the deaths during the whole of 1908 amounted only to 22,878 and during 1909 to 38,298.

Economic Entomology

The recent discoveries of the important part played by insects in the propagation of tropical diseases has caused much attention to be devoted to entomology, particularly economic entomology, in Great Britain, which has such extensive tropical possessions. At the Imperial College of Science and Technology, South Kensington, a course of studies in practical entomology for the training of young students has been inaugurated. The objects are to stimulate interest in the study of noxious insects throughout the tropical colonies, and thus gradually to organize an army of collectors and observers who will accumulate the material necessary for coping with the numerous pests which cause disease and devastate crops. The work has been placed under the control of Mr. Maxwell-Lefroy, imperial entomologist to the government of India.

Mr. Andrew Carnegie has agreed to pay for three years the expenses of sending three or four young men to the United States to receive a thorough training in the methods of dealing with noxious insects. At present, two traveling entomologists, appointed by the government, are traversing the whole of the British colonies in tropical Africa, and have received instructions to supply any official or resident with apparatus for the collection of specimens of noxious insects, and to give practical instructions. A preliminary survey has already been made of Nigeria, Nyassaland and part of British East Africa. Considering the paucity of the white population the number of men who have volunteered to assist in the work is highly creditable.

The Outbreak of Small-Pox

Since the outbreak of small-pox in London was reported in THE JOURNAL, March 18, fresh cases have occurred almost daily. There are now 42 patients under treatment and nine deaths have taken place. The disease has spread from the district of Mile End over a large part of the East End and has invaded part of the West and South. The question of the condition of the patients as regards vaccination is interesting. Seven children under the age of 8 have been attacked, of whom only two are said to have been vaccinated. These two d the disease in a very mild form and hardly seemed ranged in health. On the other hand, of the other unvaccinated five, four died. Of fourteen patients between the ages of 8 and 30 years, three had never been vaccinated and eleven were vaccinated in infancy; none had been revaccinated. Of thirteen patients between ages of 30 and 60 all had been vaccinated in infancy, but none had been revaccinated; two died. Two of three patients over 60 died; they had all been vaccinated in infancy, but none had been revaccinated. Thus no case has so far occurred in a revaccinated person.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 3, 1911.

Antityphoid Vaccination

The Académie de médecine adopted the conclusions of Dr. Vincent's report (THE JOURNAL, Feb. 25, 1911, p. 601), put in the form of a motion, recommending the facultative employment of antityphoid vaccination. In the draft of the budget of the war department for 1911 is a provision of $3,000 (15,000 francs) for the organization of a service of antityphoid vaccination to be annexed to the laboratory of the hospital connected with the school of Val-de-Grâce. Once installed, this service will cost annually about $600 (3,000 francs).

The Study of the Gastric Secretion at High Altitudes

On ascending to high levels anorexia is commonly experienced, generally accompanied by nausea and vomiting, of which the relative deprivation of oxygen is the most apparent cause. Dr. Raoul Bayeux of Paris has just communicated to the Académie des sciences the results of a series of experiments which he undertook on Mont Blanc to elucidate the mechanism of this anorexia by studying in a dog which had a gastric fistula the variations caused by the high altitude (4,360 meters, or over 14,000 feet), in the quantity of gastric juice secreted and its total acidity. He has ascertained that the quantity of gastric juice secreted in a given time after identical meals diminishes notably during sojourn at high altitude; the total acidity of this juice is only slightly diminished under the same conditions. The rate of secretion of the gastric juice is much retarded. This decrease of the secretory activity of the stomach is in harmony with the diminution of combustion already noted by Dr. Bayeux at the same altitudes. The insufficiency of gastric juice explains the loss of appetite. It also seems to explain the desire which is felt at very high altitudes for all foods capable of exciting the flow of gastric juice or supplying its place, such as lemon juice, vinegar and spices.

Internships Reserved for Women

A notice recently placed in the walls of the hospitals and of the Faculté de médecine aroused considerable interest among the students. It is in regard to the *concours* for the internship of the national asylum for convalescent women in the suburbs of Paris. The administration states that since the hospital is for women it seems to be appropriate to reserve th internships for women students alone.

Glycerin and Potassium Permanganate Cause Fire

In some military maneuvers, recently, a bottle of glycerin was broken and the glycerin ran over some packets of permanganate of potassium. These packets were covered with absorbent cotton, which took fire. Experiments show that chemical reaction takes place, with explosion and fire. It is therefore important to avoid packing glycerin and permanganate of potassium near each other in sanitary stores.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 2, 1911.

Personal

Professor Bernstein, director of the physiologic institute at Halle, will resign his teaching position at the beginning of the winter semester on account of advanced age.

Progress in the Care of Youths by the Prussian Government

According to an order of the department of education, dated January 18, the Prussian government will undertake the care of youths, that is, the intellectual, moral and physical welfare of young men from the time of leaving school until their period of military service. The associations already existing for this purpose will receive aid and new ones will be formed under the auspices of the authorities, and an appropriation of $250,000 has been made by the government for the purpose. The aims are to promote physical exercises (gymnastics, active sports, tours, etc.), encouragement of nature study, instruction in scientific and hygienic subjects, etc. The cooperation of physicians in the fulfilment of this task is very much desired by the minister.

Failure of the British Government to Take Part in the International Exposition of Hygiene at Dresden

While almost all of the civilized nations have already indicated their intention to send official representatives to the international exposition of hygiene at Dresden and to establish special national sections, the British government declined some time ago to participate. In the British House of Commons the minister of commerce was asked a short time ago the reasons for this decision. His answer was that the department of commerce had been required to furnish an official British section in the expositions at Brussels and Buenos Aires in 1910 and in the expositions at Rome and Turin in 1911. In consequence of these frequent demands on British industry for representation at expositions, the department of commerce was not able to take part in the organization of a section at Dresden. We are convinced that not only the British government but British trade will be little satisfied with this short-sighted position taken by the minister of commerce, for in the competition between the nations, which promises to be very lively at the Dresden exposition, Great Britain will play a quite unsatisfactory rôle.

Tuberculin Treatment of Railroad Employees

The pension office for the employees of the Prussian railroads is from now on to permit those patients with pulmonary tuberculosis, who have finished a treatment in one of their sanatoria, to be treated in an ambulant way with tuberculin by the physicians of the office if the sanatorium considers this desirable for a permanent cure. The tuberculin treatment, which is restricted to special cases, is carried out according to suitable regulations under careful directions of the sanatoria. Further, the pension office provides courses of instruction in two sanatoria for railroad surgeons on tuberculin treatment.

Railway Car Hygiene

A short time ago a representative in the Prussian parliament called attention to the imperfect hygiene of railway cars. He cited a case in which a member of parliament had evidently acquired a severe skin disease from the upholstered back of his seat during a railway journey. The member of parliament, therefore, wants the railway management to adopt for trial some apparatus for protection of the head and neck to be applied to the upholstered back of the seat. He recommended an apparatus in which protective strips of Japanese crêpe paper are so arranged that the passenger can draw out a strip to place under the head and neck. We scarcely believe that the railway management will adopt this recommendation, which would be quite expensive and which could not be guarded against abuse. Protective coverings for the head in railroad travel are already for sale and can be provided by anyone at slight expense.

Association News

TRAINS TO LOS ANGELES

Details of Special Trains and Special Parties Arranged for the Trip to the Next Annual Session

For many weeks past there have been printed in this department of Association News various details concerning the Los Angeles session and the trip thereto, viz., lists of meeting places, a schedule of hotels and rates, railroad rates, etc. (The eastern rates have not been announced; they will be given in these columns as soon as the information can be obtained.) Announcement has also been made that early in May there will be a special issue of The Journal reiterating all this information and giving also the program of each Section and much other information such as is usually gathered into this annual special number. It will contain a map of Los Angeles and many fine pictures of that city.

In attending this session a wonderful opportunity is offered for a vacation that will be not only a pleasurable one, but also a profitable one. The amount of pleasure and profit to be gained by the trip, however, will depend on whether the individual has studied for himself the opportunities presented.

Below are given in brief accounts of some of the special parties that are being arranged. But no one will depend alone on this description. Everyone who is thinking of going to Los Angeles should write for booklets and information to all whose addresses are given in the following itineraries. If these books are studied, one can obtain a general knowledge of the various attractions and then can decide which route is the most attractive. Some will want to see the Grand Canyon of the Arizona, a sight worth a trip across the country. Others will feel more favorable to the Pike's Peak country, Manitou, the Garden of the Gods and the various attractions of that part of the Rocky Mountains. Others will have a great desire to see the Yellowstone Park and its wonders. Still others will seek the northwestern part of the country—Oregon, Washington, etc., and the attractions of the Canadian Rockies on the Canadian Pacific. Not all of these can be seen on one trip, even on the round trip. Each individual should make up his mind what he is most anxious to see and then study the various itineraries and learn which one will best suit him.

The advantages of selecting one of the special trains, rather than to go by the regular trains, are the additional conveniences provided, the pleasure of traveling with friends and acquaintances, and the relief from the cares of looking after change of trains, hunting up conveyances for side trips, guides, etc., and the satisfaction of having everything provided in advance for comfort and for entertainment during the trip.

We mention below the special trains concerning which we have received information:

American Medical Special.—This luxurious Pullman train with full equipment will run from Chicago to Los Angeles via the Santa Fe and will leave Chicago at 8:00 p. m., Wednesday, June 21, reaching Kansas City at 9:00 a. m., Thursday, June 22, and running thence through New Mexico and Arizona to Los Angeles, which will be reached Monday, June 26, at 7:00 a. m. At Albuquerque the train will make a stop of an hour and a half to allow an inspection of the Fred Harvey collection of Indian handwork. Another stop will be made at Laguna, where an hour will be allowed to inspect the village of the Laguna Indians. The train will stop at the Grand Canyon for twenty-eight hours, giving opportunity to see the Grand Canyon of the Arizona. The desert of lower California will be crossed in the night. At San Bernardino the train will be divided—one section running through directly to Los Angeles, arriving at 7:00 a. m.—and the other going via Redlands and Riverside, stopping at each of these places to allow visits to points of interest. This section arrives at Los Angeles at 4:30 p. m., Monday. Special illustrated folders, reservations and full information may be obtained from G. T. Gunnip, General Agent, A. T. & S. F. Ry., 105 Adams Street, Chicago.

American Academy of Medicine Tour.—Another trip arranged from the east is that of the American Academy of Medicine, whose itineraries have been selected and arranged under the guidance of the passenger departments of the railroads to secure the most desirable trains and the best disposition of daylight sight seeing. Regular trains will be used. This party will leave New York over the Lehigh Valley railroad at 11:55 a. m., Monday, June 12, Philadelphia, at 12:30 p. m., and join the New York train at South Bethlehem at 2:12 p. m. and arrive at Buffalo over the Lehigh Valley at 10:27 p. m. The route will be thence over the Grand Trunk to Chicago, the Burlington to Denver and to Los Angeles over the Santa Fe. Interesting side trips and visits to the points of interest in Colorado and to the Grand Canyon will be provided for and Los Angeles will be reached Friday, June 23, in time for the sessions of the academy, which meets in advance of the American Medical Association. This party may be joined at various points along the route at a much later date, in case it is not desired to spend so much time on the going trip. Reservations for this party are to be made through the secretary, Dr. Charles McIntire, 52 North Fourth Street, Easton, Pa., from whom may be obtained the folder containing all details, both of the outgoing and of the return trip.

Burlington-Colorado Scenic Special.—This special train from Chicago to Los Angeles, via the Burlington, Denver & Rio Grande and the Salt Lake Route, will have the finest equipment of the Burlington road. It leaves Chicago at 11:00 p. m., June 21, and reaches Denver at 7:00 a. m., June 23. The party will spend four hours in Denver and vicinity, leaving at 11:00 a. m., June 23, reaching Colorado Springs (Manitou) at 1:30 p. m. The train will be parked and will remain there all night. This will give an opportunity for the party to go up Pike's Peak, visit the Garden of the Gods, Cheyenne Canyon, the celebrated "High Drive," the famous Iron and Soda Springs, and other points. The train leaves Manitou at 4:30 a. m., June 24, and reaches the Royal Gorge at 7:30 a. m., giving a splendid opportunity to see this wonderful gorge. At Glenwood Springs, an hour and a half will be spent, and Salt Lake City will be reached at 8:30 a. m., June 25. Four hours will be spent in Salt Lake, leaving at 1:00 p. m., and Los Angeles will be reached at 12:00 o'clock noon on June 26. This train traverses the mining regions of Utah and Nevada, and Rainbow Canyon and the Canyon of the Mojave River before reaching the orange country of southern California. This train has been arranged at the request of many physicians (represented by Drs. Robert T. Gillmore, Sidney Kuh and Charles B. Reed), who want to go by the Manitou and Royal Gorge route. Full details and illustrated booklets may be obtained from A. J. Poole, General Agent, C. B. & Q. Ry., Chicago.

Chicago Medical Society Special.—The special train of the Chicago Medical Society will leave Chicago at 9:15 p. m., June 22, via the C. & N. W. Ry.; arrive in Omaha 9:15 a. m., June 23, leave Omaha 9:30 a. m., arrive in Salt Lake 1:30 p. m., June 24, spending the afternoon at Salt Lake, leaving at 5:30 p. m., June 24, via Salt Lake Route, arriving at Los Angeles at 4:30 p. m., June 25. This train will be provided with full Pullman equipment of the most complete and modern character. Meals in dining car will be served à la carte. At Salt Lake arrangements will be made for a special organ recital at the Mormon tabernacle, balance of the afternoon to be spent in sight-seeing. Leaving Salt Lake, the journey lies over the Salt Lake Route through Utah and Nevada, reaching the rich mining districts, passing through Caliente, where Rainbow Canyon is entered, with its great walls of rock of every shade; and Las Vegas. Entering California, the line traverses the canyon of the Mojave river and at San Bernardino reaches the famous Orange Belt of California. The train then runs through Riverside, Ontario and Pomona, cities situated in the fruit-growing section adjacent to Los Angeles. Arrangements have been made so that any physician anticipating telegrams en route will have same sent in care of this special train and be received promptly. Standard sleeping car rate, $13.00 for double lower berth, $10.40 for upper berth, $36.50 for compartment, and $46.00 for drawing room. Elaborate itinerary will be furnished on application to Dr. George F. Suker, Secretary, 103 State Street, Chicago.

Gates Special Train.—A special itinerary is being arranged by the Gates Tours of Toledo, O., with several optional return schedules. A special train will leave Chicago, June 20, stopping enroute at the Grand Canyon, and returning, trains will leave Los Angeles July 1. Full details of the trips, including the return schedules which include Alaska, may be obtained of the Gates Tours, Toledo, O.

Missouri Valley Special.—This special train, under the auspices of the Medical Society of the Missouri Valley and the Medical Association of the Southwest, will accommodate members from the central west and southwest. It will leave Kansas City Thursday, June 22, via the Santa Fe, and will also stop over one day for the trip to the beautiful Grand Canyon. It will arrive at Los Angeles on Sunday, after the trip through the orange country. The tour will be personally conducted and a special interesting itinerary is planned for the return trip. Full particulars may be obtained, and hotel and Pullman accommodations arranged for, through Dr. Charles Wood Fassett, St. Joseph, Mo.

New York and New England Special.—This is another train which has been planned in care of McCann's Tours by Dr. Wisner R. Townsend, Secretary of the New York State Medical Society. This train, fully equipped with modern conveniences and comforts, will leave New York, via the New York Central Lines, at 6:30 p. m., Monday, June 19, connecting with trains leaving Boston at 2:00 p. m., Worcester at 3:11 p. m., Springfield 4:40 p. m., and Pittsfield 6:30 p. m. It leaves Albany at 9:55 p. m., Utica 11:55 p. m., Syracuse 1:08 a. m., June 20, Rochester 2:45 a. m., Buffalo 4:30 a. m. The train will run thence via Cleveland, Indianapolis and St. Louis, and from Kansas City via the Santa Fe through New Mexico and Arizona, reaching the Grand Canyon, Friday, June 23, where twenty-eight hours will be devoted to sight seeing in this marvelous natural chasm, one of the wonders of the world. Los Angeles will be reached at 9:00 p. m., June 25. Time will be allowed to visit the famous orange groves and to view the other points of interest at Riverside and Redlands, as has been described above concerning the other trains. The return trip is one of some length and will include many other parts of the beautiful west which are to be enjoyed at leisure. Information concerning this tour and the daily schedule of the train, including the various possibilities on the return trip, may be obtained through Dr. Wisner R. Townsend, 125 W. 58th Street, New York City.

Pennsylvania Special.—From the east a personally conducted tour has been arranged under the direction of Dr. C. L. Stevens, Secretary of the Pennsylvania State Medical Society, Athens, Pa., in conjunction with McCann's Tours. The train will be of the highest grade Pullman equipment, including a gentlemen's club car and a ladies' club and observation car, with all the accessories and accommodations of the modern train *de luxe*. The special train will leave Jersey City Saturday, June 17, at 4:14 p. m., via the Lehigh Valley railroad, and may be joined at various points between there and Buffalo by passengers from New Jersey, eastern Pennsylvania and Maryland. The train will leave Buffalo via the Lake Shore at 4:30 a. m., June 18, running thence through Cleveland, Indianapolis, St. Louis, Kansas City, Santa Fe, and Albuquerque to the Grand Canyon, where a side trip of twenty-eight hours will be made. Thence the route will include the heart of the orange country in California, Riverside and Redlands, at both of which places time stops will be made. Los Angeles will be reached Friday, June 23, at 9:00 p. m. Full information concerning this tour is contained in a little booklet, which may be obtained from Secretary Stevens.

RETURN TRIPS

As will be noted, several of these tours provide for the return trip by different routes, with interesting side trips. Full information about them can be obtained from the railroads or from the parties named above. In the advertising pages of The Journal, now and in later issues, will be found announcements of many of these railroads and trips. Members are urged to secure the booklets and folders issued by the railroads concerning these trips and post themselves in order to secure the greatest advantages from the visit to the west.

There are numerous ways of returning from the meeting, all of which offer advantages that will appeal to the members and their friends. The return trip from Los Angeles may be made by boat to San Francisco, Portland and Seattle, or by the southern routes over the Southern Pacific, the Rock Island, the Santa Fe, the Salt Lake route or through San Francisco by way of the Southern Pacific and Union Pacific, which offers opportunity for a side trip to the Yellowstone Park and a visit to Salt Lake and all the points of interest in Colorado. Or the return trip may be made by the northern routes—the Northern Pacific, the Chicago, Milwaukee and St. Paul, the Great Northern or the Canadian Pacific—visiting the cities of the northwest—Portland, Tacoma, Seattle and Vancouver—and the various points of interest in the Rockies, including the trip to Yellowstone Park, which may be reached from the Northern Pacific at Livingston, Montana.

Even Alaska and Hawaii will be visited by some. The beauties of the west are at the service of the physicians and their families and friends, and a delightful outing is ready.

Marriages

LEROY S. TOWNSEND, M.D., to Mrs. Grace R. Coates, both of Beaver Falls, Pa., February 28.

GEORGE A. NOLAND, M.D., Ashburn, Va., to Miss Mary Louise Lambert, at Baltimore, March 8.

WILLIAM DAVIS TEWKSBURY, M.D., Washington, D. C., to Miss Susan Tidball West, at Roanoke, Va., February 25.

Deaths

William Warren Potter, M.D. A surgeon of skill and judgment, and a student of acumen and originality in medical science, died at his home in Buffalo, March 14, aged 72. He was born in Strykersville, N. Y., and was graduated from the Medical Department of the University of Buffalo in 1859. He came of a long direct and collateral line of celebrated physicians. At the outbreak of the Civil War, he entered the service as assistant surgeon of the Forty-Ninth New York Volunteer Infantry, served in the Army of the Potomac, was captured, and confined in Libby Prison, but soon exchanged. He was afterward promoted to surgeon of the Fifty-Seventh New York Volunteer Infantry, and after the battle of Gettysburg, was assigned to the charge of the First Division Hospital, Second Army Corps. He was brevetted lieutenant colonel, U. S. V. for faithful and meritorious services. After the close of the war Dr. Potter practiced in Batavia but soon returned to Buffalo. Of late years he has limited his practice to gynecology. His society membership includes the American Medical Association, in which he was chairman of the Section on Diseases of Women in 1890; the Medical Society of the State of New York, of which he was president in 1891; the Medical Society of the County of Erie, of which he was president in 1893; and the Buffalo Medical and Surgical Association, of which he was president in 1886. He has been secretary of the American Association of Obstetricians and Gynecologists since 1888; and was president of the Section on Gynecology and Abdominal Surgery of the first Pan-American Medical Congress. Since 1891, he had been the president and examiner in obstetrics and gynecology of the New York State Board of Medical Examiners, and from 1895 to 1899, he was president of the National Confederation of Medical Examining and Licensing Boards. He was also consulting surgeon to the Buffalo General Hospital. Dr. Potter has been editor of the *Buffalo Medical Journal* since 1888. His death is a great loss to his colleagues in Buffalo and western New York and to the medical profession at large.

George Gorgas Craig, M.D. Jefferson Medical College, 1869; one of the most prominent practitioners of western Illinois, died at his home in Rock Island, March 12, from pneumonia, complicated by cirrhosis of the liver, aged 65. At the age of 17 he enlisted in the Fifty-First Pennsylvania Volunteer Infantry and served through the last two years of the Civil War. Immediately after his graduation he moved to Rock Island, where he afterward resided. In May, 1889, he was appointed acting assistant surgeon U. S. Army and surgeon to the Rock Island Arsenal by the Secretary of War and served continuously in this position until his death. When the Medical Reserve Corps was created he was commissioned as a first lieutenant in that body. Dr. Craig devoted much time to the study of sanitary science and was instrumental in the organization of the Health Department of Rock Island. In 1896, with Dr. Carl Bernhardi, and the late Dr. C. C. Carter, he founded the Rock Island Sanitarium, with which he was connected until it was dissolved in 1906. His society membership included the American Medical Association, American Public Health Association, and Association of Military Surgeons of the United States. He was past president of the Illinois and Iowa Central District Medical Association, and Rock Island County Medical Society.

Warren Bell Outten, M.D. Washington University, St. Louis, 1866; a member of the American Medical Association; and a prominent railway surgeon of the Southwest; died at his home in St. Louis, March 18, from pneumonia, aged 66. For thirty-six years Dr. Outten was chief surgeon of the Missouri Pacific Railway Hospital Department. He was consulting surgeon to the Missouri Pacific System, and president of the National Association of Railway Surgeons. During the cholera epidemic in 1866, he served as acting assistant surgeon U. S. Army. He was consulting surgeon to the St. Louis City Hospital, St. Luke's Hospital, the Baptist Sanitarium, and Mount St. Rosa Infirmary. He was also president of the *Interstate Medical Journal* Company. Dr. Outten was an authority on railway injuries, and was the author of a valuable work entitled "Railway Injuries; Their Clinical and Medicolegal Features."

Pierre Wilson, M.D. Missouri Medical College, St. Louis, 1884; formerly a member of the American Medical Association; professor of pathology, gynecology and abdominal surgery in Baylor University. Dallas, Tex.; died at his home in Harlingen, Tex., March 8. The Dallas Medical and Surgical Society, at its monthly meeting, March 10, adopted resolutions setting forth the service to humanity rendered by Dr. Wilson, and extending sympathy to his family. Similar resolutions were passed by the students of the departments of medicine and pharmacy of Baylor University.

Samuel Hall, M.D. New York University, New York City, 1843; a member of the Volunteer Corps of New York City during the Civil War; formerly a member of the New York Academy of Medicine, and vice-president of the Medical Alumni Association of New York University; consulting physician to the Northern Dispensary, commissioner of public works in New York City in 1873; and trustee of the New York and Brooklyn Bridge; president of the school board of Rye in 1894; died in his apartments in New York City, March 10, aged 91.

Thomas F. O'Malley, M.D. Rush Medical College, 1886; a member of the Illinois State Medical Society; who in his young manhood studied for the priesthood in Ireland but was never ordained; from 1892 to 1899 chief medical examiner of the Catholic Order of Foresters; died at his home in Chicago, March 19, from pneumonia, aged 50.

Horace A. Peabody, M.D. College of Physicians and Surgeons, Chicago, 1886; formerly a member of the South Dakota State Medical Association; a specialist on diseases of the eye, ear, nose and throat of Webster; formerly president of the State Board of Health; died in St. Augustine, Fla., March 6, from heart disease, aged 55.

John A. M. Lambert, M.D. Medical School of Maine, Brunswick, 1852; formerly president of the Bennington County (Vt.), and Berkshire County (N. Y.) Medical Societies; historian of Washington County (N. Y.) Medical Society; died at his home in Salem, N. Y., March 2, from cerebral hemorrhage, aged 82.

Hiram Noble, M.D. Victoria College, Coburg, Ont., 1857; formerly of Onawa, Iowa; and later councilman and twice mayor of Blair, Neb.; a member of the Washington County board and of the local pension board, and county physician; died at his home in Blair, March 8, from cerebral hemorrhage, aged 82.

Thomas Beattie, M.D. University of Edinburgh, Scotland, 1849; M.R.C.S., Edinburgh, 1849; surgeon of the ship *Restitution* on its cruise round Greenland in 1849; for more than fifty years a practitioner of Cass County, Mo.; died at his home in Harrisonville, February 3, from cerebral hemorrhage, aged 83.

Harry Cheetham Leech, M.D. University of Pennsylvania, Philadelphia, 1907; of Providence, R. I.; died in a drugstore in that city, March 6, aged 26, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while despondent on account of the death of his mother.

Thomas L. Foulds, M.D. Indiana Medical College, Indianapolis, 1876; a member of the American Medical Association; formerly president of the Alton (Ill.) Medical Society; a specialist in diseases of the eye, ear, nose and throat; died at his home, March 7, from kidney disease, aged 57.

James Dow Appley, M.D. Philadelphia College of Medicine and Surgery, 1871; a member of the American Medical Association; local surgeon for the Delaware and Hudson Railroad; died at his home in Binghamton, N. Y., February 18, from valvular heart disease, aged 65.

Clara A. Swain, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1869; for forty years a missionary in India, where she was a pioneer in the establishment of hospitals for women; died at her home in Brookside, Castile, N. Y., Dec. 25, 1910, aged 76.

Marion Augustus Baldwin, M.D. Tulane University, New Orleans, 1866; local surgeon at Cuthbert, Ga., for the Central Railroad of Georgia, and a member of the National Association of Railway Surgeons; died at his home, March 2, aged 78.

William B. Young, M.D. Medical College of the State of South Carolina, Charleston, 1904; of Rockhill; a member of the South Carolina Medical Association; died in the Florence (S. C.) Infirmary, Dec. 20, 1910, from typhoid fever, aged 33.

"The Propaganda for Reform".

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

PROPRIETARY VERSUS UNPROTECTED NAMES

The Question of Term to be Applied to the Active Principle of the Suprarenal Gland

Some years ago the Council on Pharmacy and Chemistry decided that it was necessary to adopt, in each instance, a generic term to designate those products that are on the market under two or more proprietary names. When it came to the consideration of the various preparations of the blood-pressure-raising principle of the suprarenal gland which were on the market, it was necessary to establish some name that should be common to all of them. The name adopted was "epinephrin." This was selected in part because it was the name under which the preparation was first called to the attention of the profession of this country by Professor Abel, as will be mentioned later. Further, the name is one which is as appropriate for the preparation as any adopted by the various manufacturers, and is, in addition, easily learned. We doubt if any one will deny that the Council on Pharmacy and Chemistry, representing as it does the American Medical Association and the medical profession of the United States, has as much right to adopt a name for the preparation as has any manufacturing firm.

For several years The Journal has endeavored to follow the unquestionably correct plan of using the scientific name of a drug or medicinal preparation in preference to the coined trade name—the proprietary name given by the manufacturer. After the adoption of the term "epinephrin," The Journal began occasionally to substitute that term for the proprietary names of suprarenal products in abstracting, but only in instances in which it was evident that the author was using the proprietary name in a general sense. In original articles, however, this was not done without the author's permission. In this way it was hoped that the medical profession would gradually be led to appreciate the fact that there is a common name for the substance. Only one protest has been received, and that from Parke, Davis & Co., a firm which sells the substance under the name "adrenalin." It was as follows:

PARKE, DAVIS & CO. PROTEST

To the Editor:—We wish to protest against the unfair manner in which one of your department editors (Current Medical Literature) is treating us.

When a reputable practitioner reports to the London *Lancet* that "the effects from the treatment of the paroxysms of asthma by the hypodermic injection of adrenalin are marvelous," your department editor is taking an unjustifiable liberty when he changes the word adrenalin to epinephrin. He knows, you know, that there is no such thing on the market as epinephrin, and that Dr. Melland used our product, adrenalin; that over 90 per cent. of all clinical work done with the active principle of the suprarenal gland is done with our preparation, adrenalin, and that it is equally unfair to your readers and unfair to the manufacturer to deliberately substitute any other name—just as wrong as it would be for a druggist to substitute any other product.

In the *Wiener klinische Wochenschrift*, May 12, Dr. Kreibich did not treat of the subject which you put in his mouth. His article was devoted to "Adrenalin Technic for Determination of Leukocytes in Tissues." Do you think it right to put in his mouth a name of which Dr. Kreibich probably never heard in his life?

It is no answer to say that you have given the same treatment to one of our competitors in abstracting an article from the *Deutsche Zeitschrift für Chirurgie*. Dr. Heidenhain undoubtedly never heard of epinephrin. He writes of the behavior of a preparation made by one of our competitors, suprarenin.

We spent tens of thousands of dollars on experimental work before our chemist, Dr. Takamine, isolated the active principle of the suprarenal gland. We now pay him a royalty on every grain of the drug and every ounce of the solution. You know that there is no such thing on any market as epinephrin. And yet you try to deprive us of the credit which is fairly ours. A fine premium you are putting on originality, enterprise and research work by commercial houses! Here we have enriched the practice of medicine with the most remarkable agent discovered since Köhler noted the anesthetic properties of cocain (excepting always the antidiphtheritic serum); yet when a reputable physician reports his experience to the medical press, The Journal of the American Medical Association deliberately strikes out the name used by the author and substitutes one of its own.

Is this the way to teach ethics to others?

Parke, Davis & Co.,
E. G. Swift, General Manager.

This letter was received last June. Immediately after its receipt we began an investigation as to the views of those who use the name "adrenalin" in their printed articles. To this investigation we shall refer again. It is mentioned here to explain why the letter has not been published before.

SCIENTIFIC NAMES A NECESSITY

Aside from the question of priority of discovery, this protest raises a problem much broader and deeper than any question of personal credit or commercial aggrandizement, one which concerns the ethical and scientific status of protected names. In all countries the use of trade names in scientific treatises is discountenanced, and for very evident reasons. Hence a medicinal substance should have a scientific name by which it may be known in literature in contra-distinction to any trade name by which it may be called. This is especially true when a substance is sold under two or more proprietary names.

There are already thirty or forty different trade names for this active principle.[1] There is nothing to prevent a hundred firms or individuals from marketing this substance, each under a different trade name. Can nothing then be done? Are our abstracters to quote each of these one hundred or more names? Is it necessary that a physician use some trade name every time he mentions the substance?

If there were but one product on the market, there might be comparatively little objection to the use of the proprietary name as a generic term. When there are several, however, the adoption of one proprietary name as a generic term for that whole class of products is an injustice to all the other products in that class. Moreover, in the inevitable confusion that results, science is sacrificed to commercialism.

WHAT A BRITISH EDITOR THINKS

Very recently this same point has been discussed in British medical and pharmaceutical circles. In the London *Lancet*, Jan. 7, 1911, p. 73, there was a short note taking the editor of the "Year Book of Pharmacy" to task for substituting a generic term[2] for the proprietary name "adrenalin" in giving an abstract of an article that had appeared in the *Lancet*. Mr. J. O. Braithwaite, the editor of the "Year Book of Pharmacy," in a letter in the *Lancet*, Jan. 28, 1911, p. 264, justifies his course in using a generic term[2] in such cases, on the reasonable ground that it tends "to lessen confusion and to increase accuracy."

After showing how the use of a multitude of names for the same substance tends to degrade scientific work, Mr. Braithwaite stated that to use, in abstracting, a generic word as a "common denominator," did injustice to no one. Rather, says he: "The injustice, if any, arises entirely from the loose manner in which trade names and proprietary euphemisms are applied to these newer remedies. This has caused them as a class to fall into disrepute, and has reflected hardly on the few more valuable therapeutic articles among them . . . Moreover, it is no function of the 'Year Book of Pharmacy,' in its abstracts to advertise either 'preparations' or persons. These abstracts are intended solely to record scientific facts or practical details of use to pharmacists in their calling, or to those who are interested in the subjects with which they deal."

GENERIC TERMS INJURE NO ONE

The introduction of a generic term does not prevent any physician from using the word "adrenalin," or the proprietary name of any other product. If a physician believes a certain brand to be superior, or if he wishes to contribute royalty to the enterprise of the manufacturer, then he is justified in using the proprietary term.

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[1] Among the proprietary preparations of the suprarenal principle made in the United States are the following: Adnephrin (Frederick Stearns & Co.), Adrenalin (Parke, Davis & Co.), Adrin (H. K. Mulford & Co.), Supracapsulin (Cudahy Co.), and Suprarenalin (Armour & Co.). In Europe among others are: Atrabilin, Chelafrinum, Epirenan, Hemostasin, Hemisine, Ischemin, Paranephrin (Merck), Renoform, Supranephran, Suprarenaden, Suprarenin (Hoechst), Suprarenin synthetic, Tonogen and Vasoconstrictin.

[2] The generic term used by the editor of the "Year Book of Pharmacy" is "adrenine."

As a matter of fact, the word "adrenalin" has come into use as a generic name because Parke, Davis & Co. were the first manufacturers to "push" this product. This was done in all countries. The name this firm adopted was a catchy one, and as a result it is a fact that to-day, not only in this country but in Europe, "adrenalin" is regarded as a common name by a host of physicians, and used as such. In our correspondence regarding this matter this statement has been made repeatedly: "I used the term 'adrenalin' because I thought it was the common term."

In this connection, we desire to say that Parke, Davis & Co. are mistaken in asserting that we know that Dr. Melland used their preparation. On the contrary, study of his article shows that he used the word in a generic sense. Whether he used the preparation made by Parke, Davis & Co. or some other preparation is not specified.

"Do you think it is right," ask Parke, Davis & Co., "to put into his mouth a name of which Dr. Kreibich never heard in his life?" We think it right to use the word which will convey the idea to the reader's mind without chance of misapprehension. We think it wrong to use a word which has a double sense, when that can be avoided. Unless an author's words are meant to apply solely to the preparation made by Parke, Davis & Co., it is not right that that product should derive benefit from them.

Say Parke, Davis & Co.: "You know that there is no such thing on any market as epinephrin." This is true, and for the simple reason that every manufacturer, for purely commercial reasons, without regard to science, adopts a trade name for his product and pushes that product under that trade name for all it is worth. But if medical men will make it a point to use the word epinephrin in their discussions, in their writings, and in their prescriptions, it will not be long before there will be plenty of epinephrin on the market. As a matter of fact, already one firm (Mulford & Co.) has used as a synonym for its preparation, adrin, the term "epinephrin" and two other firms have expressed willingness to adopt epinephrin as a synonym. We sincerely hope that in the interest of science other manufacturers will do likewise, although it may be too much to expect that all will take this enlightened attitude.

COMMERCIAL PREPARATIONS NOT IDENTICAL

It is understood, of course, that the preparations on the market are not necessarily identical, since the drug is in solution, and these solutions vary according to the preservative and the solvent used.[3] On this account some physicians will find it more satisfactory to use this or that firm's product, in which case they would *of course indicate* it either by appending the firm's name after the common term "epinephrin," or by using the firm's trade name.

In view of the fact that the name "adrenalin" has been trademarked by the manufacturers of this particular product and is, therefore, no longer the scientific name for the suprarenal principle, the question of priority in its discovery or preparation is one of minor importance in this connection. However, the history of this drug disproves the claim of the manufacturers of "adrenalin" of exclusive priority in the discovery. The progress of scientific discovery is rarely such that any firm or individual can truly claim all the credit.

But before going into the history let us again quote from the Parke-Davis letter:

> We spent tens of thousands of dollars on experimental work before our chemist, Dr. Takamine, isolated the active principle of the suprarenal gland. We now pay him a royalty on every grain of the drug and every ounce of the solution. You know that there is no such thing on any market as epinephrin. And yet you try to deprive us of the credit which is fairly ours. A fine premium you are putting on originality, enterprise and research *work by* commercial houses! Here we have enriched the practice of medicine with the most remarkable agent discovered since Köhler noted the anesthetic properties of cocain (excepting always the antidiphtheritic serum); yet when a reputable *physician* reports his experience to the medical press, THE JOURNAL of the American Medical Association deliberately strikes out the name used by the author and substitutes one of its own. Is this the way to teach ethics to others?

How much Parke, Davis & Co. spent on the experimental work that resulted in Takamine isolating "adrenalin" is a matter best known to that firm. The following quotation from the article[4] by Takamine in which he announced the results of his work is interesting in this connection:

> "Having been interested in this subject for some time *I recently commenced* to make research along that line. I am now pleased to announce that *I have succeeded in isolating the blood-pressure-raising principle* of the gland in a stable and pure crystalline form." [Italics ours.—ED.]

If Takamine isolated "adrenalin" so soon after commencing his research work, one wonders why it was necessary for Parke, Davis & Co. to expend "tens of thousands of dollars" for such a rapid piece of work. But this point is immaterial. The implication here is that Parke, Davis & Co. deserve the sole credit for the discovery of the active principle of the suprarenal glands. Now for the facts regarding this matter.

THE HISTORY OF THE DISCOVERY

More than half a century ago it was discovered that the suprarenal glands contain substances which give peculiar color reactions.[5] These properties were believed to be due to the presence of pyrocatechin or to its derivatives. Since 1894[6] it has been known that extract of the suprarenal glands possessed remarkable blood-pressure-raising and local astringent properties.

The blood-pressure-raising principle of the suprarenal gland was first isolated by Abel and Crawford[7] in 1897 in the form of its benzoyl compound. Finding this substance and its derivatives to be physiologically active, Abel believed that he had isolated the true active principle of the suprarenal gland in a pure state and named it "epinephrin,"[8] meaning, of course, that the name should apply to the true blood-pressure-raising constituent. The soluble salts of epinephrin, as prepared by Abel would, no doubt, have met all the needs of practical medicine if his methods of preparation had not been too expensive.[9]

Contemporaneous with Abel's earlier researches, v. Fürth[10] succeeded in isolating from the glands in an impure state an active principle which he called "suprarenin." In 1901, four years after Abel's first report, Takamine,[11] separated an active principle from the glands which he called "adrenalin." In the same year, Aldrich,[12] a former associate of Abel, independently produced an active principle, *said to be much purer than* Takamine's, which he also called "adrenalin." That Aldrich's product was purer than Takamine's is shown by a comparison of the formulas given by the respective authors. Takamine originally stated that the formula for his adrenalin was $C_{10}H_{15}O_3N$, while Aldrich (from the analysis of his own product) assigned the formula $C_9H_{13}O_3N$. Aldrich's formula has since been confirmed by many independent investigators, while no one has ever been able to substantiate the formula originally claimed by Takamine. This fact alone demonstrates that Takamine can have no legitimate claim to be the first to isolate the active substance in a pure state.

It is evident that all these investigators were working with the same substance, in varying degrees of purity. In fact, with the exception of mentioning v. Fürth's name, this is the belief of Crawford,[12] Abel's early associate. This opinion, however, was written by Crawford, a decade after his work with

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[3] There is on the market a synthetic product called L-suprarenin synthetic bitartrate. See THE JOURNAL A. M. A., Jan. 14, 1911, p. 120. Also N. N. R., 1911, p. 82.

[4] Therap. Gaz., 1901, xxv, 222.

[5] Vulpian: Compt. rend., 1856, xliii, 663.

[6] Oliver and Schäfer: Jour. Phys., Proc. Phys. Soc. p. i., 1894, xvi; Proc. Phys. Soc. p. i., 1894, xvii; 1895, xviii, 230.

[7] Abel and Crawford: Johns Hopkins Hosp. Bull., 1897, viii, 151.

[8] Abel: Ztschr. f. phys. Chem., 1899, xxviii, 320-1.

[9] Hunt: Proc. Am. Physiol. Soc. in Am. Jour. Physiol., 1901, v, 6.

[10] v. Fürth: Ztschr. f. phys. Chem., 1898, xxiv, 142; 1898-9, xxvi, 15.

[11] Takamine: Am. Jour. Pharm., 1901, lxxiii, 523.

[12] Aldrich: Am. Jour. Physiol., 1901, v, 457. The work of Aldrich was published in the same year, but after that of Takamine. He used the name adrenalin also. The statement that Aldrich's product was purer comes from Crawford, now Professor of Pharmacology in Leland Stanford Junior University, California, *formerly* with Parke, Davis & Co. This statement was published by Crawford in the Bulletin of the Bureau of Plant Industry, No. 112, 1907, p. 16.

[13] Crawford: U. S. Dept. of Agric., Bur. Plant, Ind., Bull., cxii, 10.

Abel. Jowett, in England, several years earlier had come to the same conclusion.[14] He says: "'Epinephrin,' 'suprarenin' and 'adrenalin' refer to the same substance." Concerning the proper name for the active substance of the suprarenals, this chemist says: "As this author (Abel) was the first to isolate the substance. although *in an impure condition*, it would seem that the name originally assigned by Abel, to the active principle, should be the one adopted."

A review of the facts as briefly stated above shows that Abel's reports as well of those of v. Fürth were published in 1897-99. long before Takamine's announcement of the isolation of "adrenalin." To Abel, then, more than to any other, belongs the credit of having paved the way for the perfection of epinephrin. As we stated before, therefore, the name which he selected for the substance is the scientific one, the only proper one, if for no other reason than on account of the priority of his systematic researches. We contend, therefore, that "epinephrin" is the most correct generic name for the suprarenal principle and that the Council on Pharmacy and Chemistry did well in selecting this term.

SOME OPINIONS

To ascertain whether authors in speaking of "adrenalin," always mean the Parke Davis preparation, or whether they generally intend a wide application, we entered into correspondence with those who mentioned the word "adrenalin" in their articles, and we quote from some of the replies (italics ours):

Dr. Edward B. Bigelow, Worcester, Mass., says:

> Personally, I do not intend to use trade names or write prescriptions for proprietary preparations, although, occasionally, I must admit that I do the latter. *As a matter of fact, through ignorance, I used the word "adrenalin," considering it to be the general term for the preparation* and not knowing, until you called my attention to it, that epinephrin is that term. On looking the matter up, the preparation really used by me was "supracapsulin." I shall be pleased to substitute the word "epinephrin" where I used the word "adrenalin."

Dr. E. Fletcher Ingals, Chicago, in discussing a paper in the Section on Laryngology and Otology last June, spoke of using adrenalin. In reply to our letter he says:

> *I used the term in a general way*, for I seldom use adrenalin as it is too irritating in consequence of chloretone, but use suprarenalin. . . . Your plan is absolutely right and I hope the profession will see it in this way. I shall probably continue to use Armour's preparation, suprarenalin, as I like it best, but we will call it epinephrin.

Dr. Rudolph Matas, New Orleans, says:

> In using the term "adrenalin" I was familiar with the fact that there are several preparations of the same kind under different proprietary names; but, remembering the early work of P. D. & Co. in developing adrenalin among other cruder products of the suprarenal gland, I have clung to them faithfully up to the present time. However, in applying the term "adrenalin," as I have done, especially in our work on local anesthesia, *it was not my intention to specify any particular "makes" of suprarenal product* in preference to any other, but *I meant to use it in a generic sense* without meaning particularly P. D. & Co. in preference to Mulford, Armour & Co., Stearns, etc. I did not have in mind the trade name, but a generic name that applied to the product of the adrenal, which we all recognize as the same thing under various trade names. I see clearly the point you make and believe it is well taken. I am fully in accord with the purpose and the principle upheld by the Council on Pharmacy in doing away with trade names, if possible, but those of us who have been in the habit for years of designating certain things by certain names which are familiar to us find it difficult to break into a new practice.

Dr. John O. Roe. Rochester, N. Y., replied:

> As stated in my article, *it was adrenalin I used in the cases I reported.* I have no objection to the use of the general or generic term covering all the different preparations of this agent, although I stated that I used adrenalin for the reason that I have found it the most active and the most reliable of all these preparations.

Dr. Leo Loeb. St. Louis, says:

> I have no objection to the change you propose in my paper. *I am glad to use the term "epinephrin" instead of "adrenalin."* I am in hearty sympathy with the work done by the Council on Pharmacy and Chemistry.

Dr. A. L. Scharber, Nashville, Tenn., says:

> I did not intend to use any trade name; *I only used it in a general way.* I thought at the time that I had applied the name as it should be. Now, if I had known in time, I should have substituted the word "epinephrin" for "adrenalin."

Dr. Theodore C. Janeway, New York, writes:

> I am heartily in sympathy with your desire to eliminate trade names. *In this case it was P. D. & Co.s preparation.* . . . It seems to me unfortunate that adrenalin, which is used fairly generally in the German literature, should not have the same non-specific signification here, but suppose we cannot help that. Epinephrin always seemed to me a much clumsier name than adrenalin. However, I suppose P. D. & Co. have made it impossible to use the latter.

As stated by Dr. Janeway, "adrenalin" is used as a general term in a general sense in Germany, and in fact all over Europe, as it is in this country, and for the same reason. Thus, to quote only recent literature. Ascher and Flack (*Ztschr. f. Biol.*, 1910, Vol. 55) use the word "adrenalin" throughout their article, in the protocols and conclusions; but on page 115 they state that they actually employed the preparation "hæmostasin." Hirayama (*Ztschr. f. exper. Path. u. Ther.*, 1911, Vol. 8, p. 651) speaks of "adrenalin experiments," but actually used "suprarenin Hoechst" in all cases. This illustrates the generic use of the term. But while the substance is on the market in Europe under a greater variety of names than it is in this country, adrenalin has the same narrow, limited meaning as it does here. Parke, Davis & Co. emphasize this even in their advertisements. In a full page advertisement in the London *Lancet* recently the British profession is advised that "there is only one adrenalin. . . . Parke, Davis & Co. introduced adrenalin into medicine. This principle was isolated in 1900 by Dr. Takamine, a member of their scientific staff, and the sole right of manufacture by his process is vested in them." German physicians are laboring under the same difficulty as physicians in this country would be laboring under were it not for the Council on Pharmacy and Chemistry.

We believe that the patent on adrenalin will expire in five or six years. Then not only the method of manufacturing it but the product itself will be free. But Parke, Davis & Co. will still control the name "adrenalin," and every time the physician prescribes under this term the druggist must use Parke, Davis & Company's preparation.

In scientific literature, however, or whenever the observations or conclusions are not restricted to the Parke, Davis & Co. product, the name "epinephrin" is not only justified, but commendable. The very condition of scientific progress is freedom. The interest of the public and of science demands that this freedom should be maintained. We doubt greatly whether many scientists of established reputation will subscribe to the insinuation in the protest quoted above, that the cause of science is best advanced by restricting its liberty, in order to put a premium on the "originality, enterprise and research work of commercial houses."

Such an attitude would certainly be contrary to the best traditions of medical science. Modern conditions may have necessitated some changes in the traditional practice—but not to the extent that thinking men will agree with the accusation that those who prefer a free name to a "protected" name, are guilty of sophistication and of debauching the ethics of the profession.

PARKE, DAVIS & CO.'S "REPLY" TO THE ABOVE WITH OUR COMMENTS

With a desire to be absolutely fair and to avoid any possible misstatements of facts, a proof of the above was submitted to Parke, Davis & Co. This firm has made a rather lengthy "reply," which ignores the main point—the absolute necessity, in the interest of science, of a practical, generic name—but deals expansively with side issues, especially in extolling their own product. The reply absolutely ignores the point at issue. As will be noticed by those who read the "reply" through consecutively, it contains many reiterations. A slight rearrangement of the paragraphs has been made, therefore, in order that we may comment in one place on related matters. As the paragraphs are numbered, it will be easy for those who desire to do so to read Parke, Davis & Co's "reply" in the order in which it was sent in by them. Omitting the first paragraph, we have arranged the text of the reply under four heads. Their "reply" begins as follows:

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[14] Jowett: Jour. Chem. Soc., 1904, lxxxv, 192.

To the Editor:—On the following points in the article which you send us, "Proprietary versus Unprotected Names," you take a position which is utterly untenable:

1. Not a single grain of the active principle of the suprarenal gland was on the market, in pure state or in solution, until Parke, Davis & Co. first offered the pure adrenalin and the solution adrenalin chlorid to the medical profession and the drug trade. That we were the first to offer these products for sale has never been disputed.

Comment:—Technically this is true. Nevertheless, under the name "epinephrin," an active principle of the suprarenal gland, as prepared by Abel, was in the hands of clinicians, in the form of a salt and in solution, and was being made the subject of experiment and report to medical societies nearly two years before Parke, Davis & Co. offered it for sale.

I. VARIATIONS IN COMMERCIAL BRAND

2. If you will turn to Bulletin 61 of the Bureau of Public Health and Marine-Hospital Service at Washington, you will find on page 25 a summary of an investigation of six preparations on the market purporting to contain the active principle of the suprarenal gland. In point of activity four of them range from 3.7 to 66.6 per cent. of the normal standard. Only two are pronounced satisfactory (100 per cent.). If you purpose to encourage the use of the generic name for the six preparations, and if a physician prescribe epinephrin, which of the six products would you have dispensed on his prescription—the active, the standardized or the virtually inert? Would you leave the decision wholly to the dispenser? Would you give the physician any voice in the selection of the product that he can trust? And if in your dislike of "trade names" you persist in closing your columns to them and in substituting epinephrin therefor, will you, in justice to the physician and in justice to the particular product which may have been used by your contributor, take the trouble to insert "epinephrin (Jones)," or "epinephrin (Smith)," or "epinephrin (Parke, Davis & Co.)?"

Comment:—This matter has been dealt with (page 911, col. 1, par. 5), in part, as follows: "It is understood, of course, that the preparations on the market are not necessarily identical, since the drug is in solution, and these solutions vary according to the preservative and the solvent used. On this account some physicians will find it more satisfactory to use this or that firm's product, in which case they would, of course, indicate it either by appending the firm's name after the common term 'epinephrin' or by using the firm's trade name."

The introduction of a generic term does not prevent any physician from using the word 'adrenalin' or the proprietary name of any other product. If a physician believes a certain brand to be superior, or if he wishes to contribute royalty to the enterprise of the manufacturer, then he is justified in using the proprietary term.

We have no complaint against the use of a trade name when the prescriber, author or abstracter intentionally restricts his remarks to that one particular preparation, as in the comparative investigations quoted in the reply. But as we have pointed out, practically all authors intend to use a generic name, and think that they are doing this.

3. Allow us to remind you of your own words in THE JOURNAL of the American Medical Association, Feb. 26, 1910, page 710:

"Schultz has just published the results of a careful examination of samples of the suprarenal preparations on the American market, which illustrated once more the need of more care in the methods of preparing and keeping this important drug. Of the six different products only two were of the strength claimed; the others vary from 3.7 to 66.6 per cent. of this strength. . . . Hunt in 1906 showed that some of the preparations labeled 1:1,000 had only one-fifth of the activity of others bearing the same label. Sollmann and Brown of Cleveland, Ohio, showed the activity of eight commercial preparations to differ greatly. . . . The fact remains, however, that inferior preparations are on the market and are probably passing into the hands of physicians daily. . . . There are reasons for believing, however, that some of the firms preparing this and some other drugs requiring physiologic standardization are not properly equipped for the work."

If, now, the physician prescribes simply "epinephrin," what ground has he for complaint if a solution containing 3.7 per cent. of proper normal potency is dispensed?

5. Those manufacturers who are making substitutes for adrenalin will rejoice to know that an influential medical journal is supporting their attempts to destroy in the minds of physicians the distinction between their products and the original. No wonder that one or more of them have been willing to accept your suggestion and attach the word "epinephrin" to their labels! Why should they *forego* your help in rectifying their past failures to give standing to their imitations and substitutes?

Comment:—We are not aware that there is any "distinction," other than the variability which may exist between any two commercial brands of the same substance. This variation is unfortunate, and should be speedily abolished by the standardization of *all* the brands—a work which the Council on Pharmacy and Chemistry is trying to accomplish. Instead of this, Parke, Davis & Co. propose to meet the conditions by creating and perpetuating a monopoly.

To realize the absurdity of this, we need only consider a few analogous examples: Common table salt is not absolutely pure. Let us suppose that a commercial firm markets a pure sodium chlorid under a protected trade name. Must scientists henceforth drop the scientific name of "sodium chlorid" or the public the common name "salt," because uniformity would be promoted thereby? Again: Digitalis preparations vary notoriously. Let us suppose that Smith, Jones & Co. invent a more uniform preparation and incidentally also invent a new name. Should the name "digitalis" now be dropped from the literature, because it refers to variable products? Or again, let us now suppose that we now accomplish the impossible and accept "adrenalin" as the generic name; must we change this every time that some one finds a better way of making a somewhat purer product, or a more stable solution? Parke, Davis & Co. bring another argument along the same line:

7. Your own laboratory (THE JOURNAL A. M. A., Oct. 31, 1908, pp. 1524-25), has borne witness that of four samples (of preparations purporting to be solutions of the active principle of the suprarenal gland) *only one* did not contain sodium sulphite or a similar bleaching agent—an agent which is generally conceded to have *no* real preservative effect, and only serves to deceive the physician by masking the tell-tale evidence of decomposition. We do not ask you to publish the name of the manufacturer of the lone sample: we can guess for ourselves.

Comment:—We do not know at all that "it is generally conceded" that the sulphite has no real preservative action and is therefore a fraud; or that the infinitesimal dose used is at all harmful; or that it is in any way inferior to the preservative used in "adrenalin solution." In the absence of any evidence in this direction, the Council had to be content with a statement of the nature of the preservative; but if good evidence is adduced, the Council will doubtlessly apply it.

II. EXPENSE OF DISCOVERY

Parke, Davis & Co. lay great stress on the matter of the expense of discovery in the following paragraphs:

4. The relative merits of Takamine and Aldrich, on which you dwell, have no bearing on the case. Both were in our employ during and before their work on the suprarenal gland. Aldrich entered our service July 10, 1898, and devoted more than two years to this work. Takamine had the good fortune to reach the coveted goal first. With either or both, Parke, Davis & Co. share the credit, for obvious reasons.

6. Much is said of the selfish motives and the pecuniary rewards of the manufacturer, little or nothing about his outlay, his financial hazard, his losses. Few remedies of real value are brought forth in this era save by highly trained and well-paid men working in costly laboratories. The world hears of the success, applauds the discoverer (perhaps), and utilizes the remedy. No one thinks it worth while to ascertain the costly failures, for the failures cost as much as the successes, and the returns from one success must necessarily offset the losses of a half dozen failures.

Comment:—Just when, where and how long Drs. Takamine and Aldrich were in the employ of Parke, Davis & Co.; what were their salaries and other conditions of their employment; what proportion of their time was devoted to investigations of the suprarenal problem; what other use may have been made of them—or in fact, what were the expenses of Parke, Davis & Co. in discovering adrenalin, and the probably vastly larger expenses of advertising it, what is the present rate of profit, etc.—all these are questions which may have an interest of their own; but we fail to see what practical bearing they have on the question whether we need a generic name for the numerous commercial brands of an identical substance; or even on the choice of name, since the Parke, Davis & Co. name is protected, and therefore not available as a generic name.

In passing, however, it may be remarked that so far as the mere question of expense is concerned, Takamine and Aldrich, and through them Parke, Davis & Co., certainly profited somewhat by the work of the preceding and contemporaneous workers in the same field; but we have still to learn that they have made any efforts to reimburse these "outsiders" for their share of the expense. In the aggregate, this was doubtless much greater than that of Parke, Davis & Co. The independent workers were not looking to financial encouragement; they were looking to the benefit of mankind; they are entitled to *that* benefit, and presumably would not accept any other. Parke, Davis & Co., however, would take this benefit from them, capitalize it, and convert it into dividends. These independent investigators doubtless believed, as we have said, that they were working for the benefit of humanity; it appears, however, that they were, in fact, working for the exclusive benefit of Parke, Davis & Co. This is one of the unfair phases of commercialized research.

III. PRIORITY OF DISCOVERY

As we have repeatedly pointed out, the "priority of discovery" has no practical bearing on the need, or in this case even on the choice, of a generic name; for a generic name, by its very definition, cannot be monopolized, and "epinephrin" is the only current name for the substance which has not been monopolized. It was not even proposed for any specific product, for Abel said: "I therefore name the blood-pressure-raising substance (of the suprarenal gland) 'epinephrin,' in accordance with Hyrtl's nomenclature" (*Hoppe-Seyler's Ztschr.*, 1899, xxviii, p. 321).

However, since Parke, Davis & Co., in their first letter, claimed to have "enriched the practice of medicine with the most remarkable agent," etc., we felt it our duty to point out that such a claim deprives Dr. Takamine's predecessors of the large part of the credit which is fairly theirs. The "enrichment" really dates from the discovery, by Oliver and Shäfer, of the vasoconstrictor action of the gland, which led to its therapeutic use. Had it not been for this demonstration of the therapeutic potentialities of the gland, Parke, Davis & Co. would probably not have dreamed of financing its investigation. For this then they deserve no credit. The next step was the demonstration that this action resides in a definite chemical substance; and this substance, in the form of a benzoyl derivative, was first isolated by Abel—also without the aid of Parke, Davis & Co. Had it not been for the demonstration of the basic character of this substance, Dr. Takamine might still be floundering in the dark for a process of isolation.

The next step was the isolation of the natural base, and the credit for this, we say without hesitation, belongs to Takamine, Aldrich and Parke, Davis & Co. This was followed by the determination of the structural formula; and finally by the synthesis of the substance. In the last, Parke, Davis & Co. again had no share. In such a chain of discoveries, is it right for anyone to claim exclusive credit; to imply that he alone has enriched the profession? Is it possible even to say who should have the major share? We do not believe so, and we shall not attempt it. We concede a fair share to Parke, Davis & Co., namely, the final isolation of the natural base. We do not blame them for speaking warmly on this point, nor even for some partiality to their own merits; and therefore we shall comment only on such of their statements as are distinctly unfair to other investigators, hence, subdivisions a to f, inclusive, of paragraph 8 are not commented on, while subdivisions i. j and k are discussed separately.

8. (a) You do us and our employees an injustice in the language which implies that Professor Abel was mainly responsible for the discovery and preparation of the pure, active principle of the suprarenal gland. Abel was not the first to learn that this gland contained some substance giving a peculiar chemical (color) reaction. This was demonstrated by Vulpian (*Compt. rend. Acad. d. Sc.*, Paris, 1856, xliii, 663-665) in 1856 and confirmed by Virchow (*Virchow's Arch. f. path. Anat.*, 1857, xii, 481) in 1857. He was not the first to believe that these glands contained some active principle, because Vulpian and Cloez (*Compt. rend. Acad. d. Sc.*, Paris, 1857, xlv, 340) in 1857, and Arnold (*Virchow's Arch. f. path. Anat.*, 1866, xxxv, 64) in 1866, and Holm (*Jour. Pract. Chem.*, 1867, c, 150) in 1867, had arrived at the same conclusion, as is shown by their attempts to isolate such an active principle.

(b) He was not the first to demonstrate that these glands contained a substance of undoubted chemical similarity to another well-known substance, for Krunkenberg (*Virchow's Arch. f. path. Anat.*, 1885, ci, 542) in 1885 called attention to the similarity between the color reactions of the extract of this gland and those of pyrocatechol. Also, Brunner (*Schweiz. Wchnschr. f. Pharmakol.*, 1892, xxx, 121) in 1892 confirmed Krukenberg's conclusions in reference to the similarity between the color reaction of some substances in the glands and those of pyrocatechol.

(c) Abel did not first demonstrate that these glands contained a substance of marked physiologic activity, for Oliver and Schäfer (*Jour. Physiol.*, 1894, xvi, 1; 1895, xviii, 230) in 1894 made the important discovery that the extract from the suprarenal glands produced a rising blood-pressure when injected intravenously. Moreover, Moore (*Proc. Physiol. Soc.*, London, xiv; *Jour. Physiol.*, 1895, xvii) in 1895 discovered that the reducing property in such an extract went hand in hand with the ability to increase the blood-pressure, and he also concluded that the physiologically active body must be identical with the reducing body which gives a green color reaction with the iron salts.

(d) In 1896 Fränkel (*Wien. med. Bl.*, 1896, xix, 207, 228, 246) purified the extract of the glands until he had obtained a syrup-like body, and he, like Abel, with equal reason, considered this to be a pure substance. He called it "sphygmogenin," but no evidence was offered to demonstrate its purity or identity. In the light of our present knowledge we, of course, know that it was not the active substance, though it undoubtedly contained some of the active substances.

(e) Mühlmann (*Deutsch. med. Wchnschr.*, 1896, xxii, 409) in 1896 made a chemical investigation and arrived at the conclusion that the active principle was pyrocatechol. This, of course, we now know to be untrue also.

(f) Moore (*Jour. Physiol.*, 1897, xxi, 383) in 1897 argued that Fränkel was wrong in assuming the active principle to be a derivative of pyrocatechol, and argued that it was a derivative of pyridine. The error of this conclusion has also been demonstrated; nevertheless, Moore's work was important, very interesting and creditable.

(g) Abel and Crawford (*Bull. Johns Hopkins Hosp.*, 1897, viii, 151) in 1897 published results which showed that they had been carrying on a very interesting series of chemical researches on the active principle, but a careful perusal of the papers published at this time, and also in 1898 and 1899, and, in fact, a perusal of all the papers which have emanated from Professor Abel, has demonstrated that he never did succeed in isolating the active substance in pure form, but that what he did obtain and what he did regard as the active principle and the substance to which he has given the name of epinephrin, was really a compound which was not the active principle itself, but which contained more or less of the active principle, and which consequently displayed some of the peculiar physiologic activity of this substance. Aside from the greater complication of the work, and perhaps the more highly scientific methods used, he really accomplished little more than did Fränkel in 1896, or perhaps Oliver, Schäfer and Moore, who made an extract from the glands and proved it was possessed of peculiar chemical and physiologic activity. More than this, the work which he did and the results which he published were not finally used by Drs. Takamine, Aldrich, von Fürth or Pauly as the basis of a method for the extraction and purification of the active principle. Without the independent labors and discoveries of these other men or others equally as able and fortunate, it is quite possible that the active principle of the suprarenal glands in a pure and concentrated condition would not be available to the medical profession to-day.

(h) If Abel has ever succeeded in extracting the pure active principle, even up to the present day, without taking advantage of the information developed by Takamine and others, we have seen no evidence of it in the scientific journals. There is no doubt that Abel was convinced that these glands contained some substance possessing high physiologic potency; in fact, he could not have avoided such a conclusion from the information furnished by others, and one might perhaps say with all justice that he assigned the name epinephrin to the substance which he imagined was present in the glands, but his conclusions as to the constitution of this substance, and the methods which he developed for its extraction and purification, have been overthrown by others and are not accepted to-day by his scientific colleagues.

Subdivisions i j and k are commented on below.

(*i*) No less than four formulas for the active principle of the suprarenal glands have been proposed by Abel from time to time. Even if we agree to adopt the last of these, one cannot avoid the fact that this has been proved beyond any doubt to be an incorrect formula for the active principle. It would certainly do violence to scientific usage, and be a distortion of the truth, therefore, to apply this name "epinephrin" to a substance now known as "adrenalin," which has a different chemical constitution.

Comment:—In justice to Abel, it should be said that he conceded that he had not isolated the natural base, but its benzoyl salts. These, however, he evidently had in a practically pure form—as pure as Takamine's original products. In evidence, we need only quote Aldrich, and therefore Parke, Davis & Co. themselves: "It is interesting to note in this connection that if we subtract a benzoyl residue from Abel's formula for epinephrin—$C_{17}H_{15}NO_4$—we obtain a formula—$C_{10}H_{10}NO_3$—which is not very far removed from that of adrenalin—$C_9H_{13}NO_3$—a difference that can be readily explained if we suppose either of these bodies to be contaminated with other bodies." (*Am. Jour. Physiol.*, v, p. 461). As to the matter of formulas, it must be remembered that the time when Abel worked on the problem, the subject was scarcely ripe for final judgment. Every chemist understands that the earlier formulas are more or less provisional. A criticism on this score is scarcely fair, least so from the champions of Dr. Takamine; for *the formula of Takamine has shared the same fate as Abel's*. In fairness, it should also be stated that the four formulas which excite the derision of Parke, Davis & Co., were not all for one and the same thing.

Parke, Davis & Co. then quote the opinions of several investigators:

> (i) Professor Pauly (*Ber. d. deutsch. chem. Gesellsch.*, 1903, xxxvi, 2944), a man of world-wide reputation, writing from the laboratory of the University of Bonn, says:
>
> "The credit of first precipitating and isolating from the suprarenal gland of the therein contained blood-pressure-raising principle as a chemical individual belongs to Takamine. It has the name 'adrenalin,' given to it by its discoverer, which name, among the many trivial names given to it, possesses the best scientific claim."
>
> (j) Professor von Fürth (*A. d. Sitzungsb. d. k. Akad. d. Wissensch. in Wien. Mathem-Naturw. Klasse*, 1903, cxii, 3) says in this connection:
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> "Abel and his pupils employ the name of epinephrin to designate the active principle as contained originally in the gland, instead of adrenalin or suprarenin. As the substance described and analyzed by Abel under the name epinephrin is certainly different from the original body in the adrenal glands, I shall avoid using the same, since it necessarily leads to a misunderstanding."
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> (k) In a second paper Pauly (*Ber. d. deutsch. chem. Gessellsch.*, 1904, xxxvii, 1388) emphatically rejects Abel's empirical formula, $C_{10}H_{13}NO_3\tfrac{1}{2}H_2O$, and remarks:
>
> "This formula, together with the name 'epinephrin hydrate,' which designates the same, should be blotted out of the literature. The name 'epinephrin,' however, should remain now as before for the basic substance obtained by treating adrenalin with concentrated H_2SO_4, or with dilute acids under pressure, and to this the formula $C_{10}H_{13}NO_3$ should be given. This body, whose chemical composition is different from adrenalin, and whose physical, chemical and pharmacologic properties are different from the real blood-pressure-raising substance, should be considered a transformation product of the active principle."
>
> Pauly adds that Jowett is mistaken in giving Abel and Crawford credit for the priority in first isolating the active principle:
>
> "Thus there can be no doubt that not Abel and Crawford, but Takamine first obtained the active substance. If Abel adheres to the statement referred to in the beginning, that his formula $C_{10}H_{13}NO_3\tfrac{1}{2}H_2O$ finds confirmation in the analyses of salts and derivatives, it must be answered that this is not the case; that he, outside of one impure benzoyl product, has not *prepared, not to* say analyzed, up to the present time, either a salt or derivative of adrenalin, in which the nucleus of the last is still intact."

Comment:—These are altogether matters of opinion or point of view, and to appraise them, it should be understood that Pauly, at the time when he wrote them, was engaged in a somewhat sharp controversy with Abel, as might be gathered from the expressions quoted. His views, therefore, would be apt to lack perspective, in fact, they would tend to be somewhat biased. Incidentally, Pauly is not a professor but a privat docent at the University of Würzburg and can hardly be said to be a "man of world-wide reputation as a chemist." As to von Fürth's statement, there can no longer be any fear of a "misunderstanding."

Parke, Davis & Co. proceed:

> (m) Abel's epinephrin possessed little if any blood-pressure-raising action (von Fürth: *Ztschr. f. physiol. Chem.*, 1900, xxix, 122). Abel never succeeded in producing the crystallized base until he learned how from Takamine. The *one point on which* Abel (*Bull. Johns Hopkins Hosp.*, March, 1901, xii, 80) at first agreed with von Fürth (most erroneously, as it proved) was that "the active principle *in its native* state is not precipitated by ammonia." Not only was this single *point* of agreement exploded by Dr. Takamine's discovery, but singularly enough Abel's statement of the error was made in the same article of May, 1903, in which he acknowledged receipt of the Takamine crystalline base, of which he then did not know the process *of making*. In other words, Abel never succeeded in *producing* the crystalline preparation of the blood-pressure-raising principle until Takamine taught him how by a method which he *and von Fürth had* pronounced impossible! Abel remarks later (*Ber. d. deutsch. chem. Gesellsch.*, 1903, xxxvi, 1839): "The important observation that the substance can be precipitated in crystalline *form from* concentrated gland extracts by the aid of ammonia and other alkalies we owe to Takamine." Nothing *could be more* explicit.

Comment:—As to the ammonia-precipitation, the *fact that* Takamine succeeded where Abel and von Fürth had failed, proves that Abel was wrong in this particular, as he concedes in the quotation. Abel fell into this error because his gland solutions were too weak; he had, however, discovered the ammonia-precipitation in the case of his isolated substance, and the basic nature of the latter long before a report of Takamine's work was published. (*Hoppe-Seyler's Ztschr.*, 1899, xxviii, 324.)

The statement that "Abel's epinephrin never possessed any blood-pressure-raising action," is a wholly inexcusable misrepresentation, to put it mildly. Abel stated that his free base soon lost its activity, but the salts, especially the picrate and bisulphate, were highly active, *and in the dry state retained* their activity. These active salts, as epinephrin bisulphate, were always prepared by transposition from a picrate and not from the free epinephrin which became inactive presumably by *oxidation* during the precipitation. The curves in the paper of Abel and Crawford (*Johns Hopkins Hospital Bull.*, 1897, viii, 151) *were absolutely convincing*. In the paper in *Hoppe-Seyler's Zeitschrift*, xxv, Abel found that 0.02 mg. of the salt per kilo of animal gave a distinct rise; and that larger doses raised the pressure by 88 mm. On p. 349, he also describes the blanching effect on the conjunctiva. The writer of the "reply" is evidently familiar with these papers and his misstatement of the case must, therefore, be intentional, especially since he admits in a former paragraph (g), that Abel's epinephrin "displayed some of the *peculiar physiologic* activity of this substance" (the active principle). Nor does this writer anywhere intimate that Abel has *replied in detail* to von Fürth's contention that epinephrin and suprarenin (the name adopted by von Fürth for the active principles *of the* suprarenal gland, now a "trade" name) are fundamentally different substances. (See Abel, *Johns Hopkins Hospital Bulletin*, March, 1901, and *American Journal of Pharmacy*, July, 1903.)

IV. SUMMARY

Parke, Davis & Co., conclude their reply as follows:

> (n) Far be it from us to pretend that our research workers were *not greatly indebted* to other pioneer students of the suprarenal gland, or to deny that the work of a number of earnest investigators had paved the way for Takamine's crowning *achievement*. Nearly every great invention or advance in every art is thus made possible. Pasteur made Lister possible. Is this any disparagement of Lister? Because there was a prior record of *research, are we to be robbed* of the credit which is justly due us for being the first, through our employees, to separate the *active* principle in its pure state, to determine its constitution, to evolve *a practical method of production* on a commercial scale, to confer a remarkable boon on suffering humanity? Is the inventor of a therapeutic agent to be discriminated against? Has *society a greater stake* in *an improved* broom-handle than in a valuable drug? Nay, of all inventions, should not the author *of* a new remedy be singled out for the richest rewards that society can *confer? Will Professor* Ehrlich be any the less a great benefactor of his race if he reserves for himself or for his institute in Frankfort a large royalty on his wonderful salvarsan? *If we have* done nothing for medicine and humanity in this matter of adrenalin, your argument is sound. If we have done much, your position is pitiful and wrong. And, worst of all, *the very men* whom you profess to serve—the medical practitioners of the country—will be the first to suffer. The more you encourage the use of the blanket name "epinephrin," the more *you put the physician* at the mercy of "thirty or forty" different manufacturers whose products range in value from the worthless to the best.
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> Parke, Davis & Co., Detroit.
> By E. G. Swift, General Manager.

Comment:—We commend the spirit of the *first sentence*. For the rest, we need only restate the *principle* at issue, which Parke, Davis & Co. have seen fit to ignore entirely in their reply: When the same substance is actually marketed and used under several distinctive trade-names, it becomes necessary to use a generic name when speaking of properties of the substance which are common *to all "brands."* This is the intent of most scientific and medical writers on the suprarenal base, and when the word "adrenalin" *is used* by medical writers, it is generally meant in the generic, and not in the distinctive sense. Since the name "adrenalin" is protected, it should not, and properly cannot, be used in this way. The name "epinephrin," since it is not monopolized, is not only the best, but also the sole name which can be rightly applied to the suprarenal base, in the generic sense.

Correspondence

Rheumatism, Specialism and Independent Journalism

To the Editor:—I saw a very timely letter in THE JOURNAL, March 11, 1911, inquiring why reputable physicians and surgeons will contribute articles to medical journals which admit a very undesirable class of nostrums and proprietaries to their advertising. As I frequently contribute to several independent journals, some of whose advertisements I do not approve of at all, I will say that I do it in order to reach the large number of broad, progressive, and liberal and non-sectarian mediical men who read these journals and keep watch for everything new or good that appears in their columns. I do not use nostrums or proprietaries, never have used any and always speak out against them whenever I have an opportunity, but I must have a fair field and a free parliament which no man could have in contributing for journals like THE JOURNAL A. M. A.

I am a specialist in the treatment of rheumatism and diseases of the stomach and liver and diseases of children, and have been grandly successful, more so than I ever dreamed possible when I started in the practice of medicine. I like to spread the light, and tell other doctors what I have done and what they can do by using the same means, but you would not think for a moment of admitting one of my articles to the columns of THE JOURNAL A. M. A., for I often carry a case of rheumatic fever to a very quick and successful termination with such remedies as bryonia, iris, rhus tox., pulsatilla, gelsemium, colchicin, veratrum, aconite, apocynum and guaiacum.

I demand that any journal that I write for shall be broad and liberal and non-sectarian enough to publish articles recommending any ethical remedy that I have proved to be of positive curative value. We need a much higher standard of medical ethics. They are absolutely disregarded by most medical men now. A poor sick doctor in South Carolina writes to me in asking advice for his desperate case of rheumatism, "I have paid out everything but my home to the M.D.'s for treatment and am not cured." What kind of ethics would allow a man to take the last dollar from a suffering brother physician? W. M. GREGORY, Berea, Ohio.

The Niemeyer Pill

To the Editor:—The "Niemeyer Pill," concerning which there has recently been an interesting correspondence in THE JOURNAL [January 21, p. 211 and February 11, p. 443], is commonly known in England as Addison's pill. That it was used long before Niemeyer's time is proved by its inclusion in the first *edition of the Pharmacopeia of Guy's Hospital*, published in 1837, when Bright was one of the full physicians and Addison the only assistant at the hospital. The pill was then called pilula scillæ cum hydrargyro and its composition is as follows:

℞ Hydrargyri oxidi gr. xx.
Pilularum scillæ compositarum dr. iv.
Misce. et divide in pilulas lx.
Dosis, i, ii, vel iii, semel, bis, sæpiusve quotidie.

The following is the formula of the pilula scillæ composita:

E singulis drachmis scillæ formentur pilulæ xii.
Dosis, i, ii, vel iii, bis, ter, quaterve quotidie.
Singulis pilulis interdum adde.
Digitalis foliorum contritorum gr. ss.

ARTHUR F. HERTZ, London, Eng.

Anterior Poliomyelitis: The Proper Method of Diagnosis

To the Editor:—In a letter to the *New York Medical Journal*, published several years ago, I made the suggestion, from analogy, that the first tonsil (Luschka's) was probably the site of infection in poliomyelitis. Dr. Bryant's recent article has confirmed this probability.

In a recent number of THE JOURNAL, Dr. Flexner reports that he and his collaborators have suggested that the nasopharynx acts in human beings as the portal of entry of the virus into the central nervous system, as well as the source of its dissemination to other human beings. He also calls attention to the work of Osgood and Lucas showing that the virus can survive in the nasopharynx of the monkey for nearly six months. . . The importance of securing methods of early and certain diagnosis of anterior poliomyelitis, says Flexner, is self-evident. By taking advantage of the changes which regularly occur in the cerebrospinal fluid it is possible, early in the course of the infection, to arrive at a certain diagnosis.

As it would be comparatively easy both to diagnose and to treat this disease by going at once to the place which is now known to be the site of infection in this and in all air-borne infections, I would suggest the following method: In a patient suspected of harboring the germs, sterilized cotton carriers should be inserted through the nose to the nasopharynx. These infected carriers with their bits of cotton are returned to the tubes and later used to infect either monkeys or guinea-pigs. This procedure of passing the cotton into the nasopharynx suggests the proper method of sterilizing this space, namely by wetting the cotton in hydrogen peroxid.

EDMUND D. SPEAR, M.D., Boston.

The Secret Commission Evil

To the Editor:—I read in THE JOURNAL, March 11, Dr. Lord's article on "The Secret Commission Evil."

I have been making furrows in these muddy country roads for seven winters and have driven through the dust for seven summers. On my rounds I have seen and studied many cases. On one occasion I was sent to consult a big surgeon concerning a case which was causing a great deal of worry to the whole family. I saw the surgeon, and after our consultation, I was asked: "Where do you send your surgical cases?" I proudly answered, "I operate whenever I can get the consent of the patient, doctor." This surgeon did not take me along to dinner, although he had remarked previously that he was on his way, nor did he seem to enjoy my company thereafter.

On another occasion, an old classmate introduced me to some of his specialist friends. They also asked: "Where do you send your patients?" I answered: "My territory is pretty far away, doctor." Our visit was perceptibly less sociable afterward. What would the proposition have been if the answers had been more pleasing to the surgeon and the specialists?

I feel that I missed some good entertaining or perhaps "fee-splitting." Maybe these gentlemen needed finances more than patients. Where does "fee-splitting" start?

AUGUST BECHTOLD, M.D., New Athens, Ill.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

REMOVAL OF IMPACTED CERUMEN FROM EAR

To the Editor:—I have been interested in the query of Dr. Blackly, in THE JOURNAL, March 11, regarding removal of impacted cerumen from ear. Filling the ear at night with olive oil and following this by hot irrigation next morning with biborate of soda solution will remove the impaction very easily. The patient is advised to sleep with the affected ear uppermost. If the opposite ear is also in need of attention the same treatment may be used on the following night. ERNEST BOSTON, M.D., Taylor, Texas.

ODOR FROM ASPARAGUS

To the Editor:—What is the peculiar odor noticed in urine after eating asparagus? Have any harmful effects been known as a result of eating this vegetable? I have a faint recollection of hearing a medical instructor caution against its use in kidney disease.

A. I. L.

ANSWER.—The odor in urine after eating asparagus is due to asparagin—a crystalline substance which exists in smaller quantities also in lettuce, potato, marshmallow and other vegetables and is said to have diuretic and sedative properties. The eating of asparagus is not generally thought to have harmful effects.

BACTERIOLOGY OF COLDS

To the Editor:—Please give me the facts known with regard to the bacteriology of "colds." Is the influenza bacillus usually responsible for ordinary colds or are other germs sometimes the cause? Also, does the infection spread along the mucous membrane from the first site or is the blood concerned in its propagation?

B. S. Penn, Humboldt, Tenn.

Answer.—The actually known facts regarding the relations of bacteria to "colds" are somewhat meager. It is believed by many authorities that the essential factor in a "cold" is congestion due to vasomotor changes, not necessarily connected with bacterial action, the association of bacteria with such changes being merely secondary. Other "colds" follow the direct action of irritants, prominent among which may be bacteria-laden dust. In other cases there is proliferation of bacteria already domiciled on the mucous membrane. The ordinarily latent microorganisms spring into renewed activity when the resisting power of the individual is diminished. A number of organisms have been found in the nasal secretions in "colds." Among these may be mentioned *Micrococcus catarrhalis,* streptococci, staphylococci, the pneumococcus, an unnamed diplococcus and the influenza bacillus. Some "colds" are evidently contagious, but their microbic cause has not been discovered. The influenza bacillus does not seem to be usually responsible for ordinary "colds." Even in epidemics, characterized by the symptoms of influenza, the influenza bacillus has not been demonstrated in all cases. So far as clinical observation goes, it would appear that the infection spreads by contiguity along the mucous membrane in most cases. An infection by way of the blood is possible, not probable.

CHINESE DO NOT PAY PHYSICIANS TO KEEP THEM WELL

To the Editor:—Ever since I was a boy I have met with occasional references in books and newspapers to the "Chinese custom of paying their physician when they are well and stopping payment when they are sick." Is there any truth in this statement? Has this been the custom in China, or is it merely a traveler's yarn or a utopian fancy?

C. U. S.

Answer.—Contracting to keep a patient in health is at least extremely rare in China. All authorities acquainted with China agree that the method is so seldom met with as practically not to exist. Were there such a custom the physician (though that is hardly the term to apply to the native malpractitioner) would promptly go out of business, for his clientele would speedily develop real and imaginary cause for reducing his income to zero. The misstatement is often seen in the literature, but must be classified with the fabrication that the Chinese eat rats, or that they did not wear long hair 'till compelled to do so by the Manchu conquerors.

TREATMENT OF ACIDOSIS

To the Editor:—Please give the most satisfactory treatment, both dietetic and medicinal, for acidosis.

I. W. C.

Answer.—Acidosis is due primarily to insufficient oxidation, and secondarily to an insufficient supply of carbohydrates, the organism being obliged in that case to break up proteins or fats to sustain life. The dietetic remedy, therefore, is a supply of carbohydrates sufficient to spare the fats which are regarded as the chief source of the acid. In diabetes this supply of carbohydrates should be sufficient to avoid the dangers of acidosis but not enough to increase to a dangerous extent the amount of sugar in the blood and urine. Medicinally it is theoretically correct to administer remedies which will increase oxidation. Alkalies are believed to have this power and are the chief remedies employed in the treatment of acidosis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 18, 1911.

Lowe, Thomas S., M.R.C., ordered to proceed from Whipple Barracks, Ariz., to Fort Apache, Ariz., for temporary duty.

Jones, George B., M.R.C., left Fort Benjamin Harrison, Ind., with the 10th Infantry, en route to Fort Sam Houston, Texas.

Vose, William E., major, left Jackson Barracks, La., with 164th Co. Coast Artillery en route to Galveston, Texas.

Holmes, R. W., lieut., left Plattsburg Barracks, N. Y., with troops en route to Texas.

Whitcomb, C. C., and Crabtree, George H., majors, promoted to major, Medical Corps, to rank from Jan. 1, 1911.

Kelly, John P., M.R.C., ordered to Fort Hamilton, N. Y., for duty.

Marietta, Shelley U., M.R.C., resignation accepted by the President.

Walker, Thomas C.; Koyle, Fred T., and Eliot, Henry W., M.R.C., ordered to proceed to Newport News, Va., for assignment to duty on transports.

Haywalt, George W., M.R.C., is honorably discharged from the service of the United States, his services being no longer required.

Hoff, John Van R., colonel, ordered to proceed to Albany N. Y., to read a paper at the meeting of the Medical Society of the State of New York, on or about April 18 and 19, 1911, on the subject of "Experience of the Army with Vaccination as a Prophylactic Against Small-pox."

Hess, Louis T., major; Weed, Frank W., captain; Burket, John A., and Fisk, Owen C., lieuts., ordered to proceed to Galveston, Texas, and report for duty with the field hospital to be organized at that place.

Reynolds, F. P., major, in addition to his other duties will perform the duties of medical superintendent of the transport service at Newport News, Va.

O'Connor, C. H., major, ordered to proceed to San Antonio, Texas, and assume command of Ambulance Co. 38, to be assembled at that place.

Field, Peter C., major, granted leave of absence for two months, about June 1, 1911.

Johnson, Thomas H., lieut., left Fort Baker, Cal., en route to San Diego, Cal., for duty with 30th Infantry.

Gilchrist, H. L., major, reports for duty at Fort Sam Houston, Texas.

Etter, Harry B., lieut., left Fort Snelling, Minn., with 2d Squadron, 4th Cavalry, en route to El Paso, Texas.

Campbell, George F., M.R.C., left Fort Wingate, N. Mex., en route to Fort Sam Houston, Texas, with Co. A, 18th Infantry.

Hanson, Louis H., captain, left Fort Hamilton, N. Y., with troops en route to Texas.

Knox, Howard A., lieut., left Fort Hancock, N. J., with troops en route to Texas.

Gosman, George H. R., major, left Fort Barrancas, Fla., en route to Galveston, Texas, with 15th and 20th Cos. Coast Artillery.

Hutton, Paul C., major, left Fort Snelling, Minn., with the 28th Infantry, en route to Fort Sam Houston, Texas.

Bowen, A. S., lieut., and Maynard, E. B., M.R.C., left Fort Snelling, Minn., with the 28th Infantry, en route to Fort Sam Houston, Texas.

Patterson, Robert U., major, left Fort Banks, Mass., en route to San Antonio, Texas.

Long, Charles J., D.S., reports for temporary duty at Fort Constitution, N. H.

Phillips, Hiram A., lieut., left Fort Banks, Mass., en route to Fort Monroe, Va.; reported March 10 for duty on the *McClellan.*

Hopwood, L. L., captain, left Fort Monroe, Va., en route to Galveston, Texas.

Mount, James R., lieut., left Fort Sheridan, Ill., en route to St. Louis, Mo., for temporary duty at supply depot.

Rich, Edward W., captain, reported for duty with the 4th Reg. Prov. Coast Artillery, presidio of San Francisco, Cal., for duty in field.

Welles, E. M., Jr., lieut., left presidio of Monterey with troops for duty at San Diego, Cal.

Wales, Philip C., major, left presidio of Monterey with troops en route to San Diego, Cal.

Eckwurzel, George M., major, left Fort Mackenzie, Wyo., with headquarters and two battalions of 18th Infantry en route to Texas.

Van Poole, Gideon M., major, left Fort Sheridan, Ill., en route to Fort Brady, Mich., for temporary duty.

Ragan, Charles A., captain, relieved from treatment at the Walter Reed General Hospital, Takoma Park, D. C., and from further duty in the Philippines division and assigned to temporary duty at the Walter Reed General Hospital.

Cole, Blase, M.R.C., resignation accepted by the President.

Manly, C. J., major, now at San Antonio, Texas, will proceed without delay to Galveston, Texas, and report to the commanding general, 1st Separate Brigade, for assignment to duty.

Davis, William B., col., granted leave of absence for two months and nine days, to take effect on his arrival in San Francisco, Cal.

Purnell, Harry S., captain, ordered to the Army General Hospital, San Francisco, Cal., for duty.

Bartlett, William H., captain, ordered to proceed from San Antonio, Texas, to Fort Oglethorpe, Ga., for temporary duty.

Richardson, William H., captain, reported for duty to commanding officer, 4th Prov. Reg. Art., at presidio of San Francisco, Cal., for field duty.

Tuttle, George B., M.R.C., left San Francisco, Cal., for duty in the field.

Ashburn, James A., M.R.C., left Fort Assiniboin, Mont., accompanying troops to Fort D. A. Russell, Wyo.

Hartsock, F. M., major, reports arrival at San Antonio, Texas.

Baker, David, major, and Darby, Taylor E., lieut., report arrival at camp near Fort Sam Houston, Texas., with the 17th Infantry.

Frick, Euclid B., lieut.-colonel, and Tasker, Arthur N., lieut., left presidio of San Francisco en route with the 30th Infantry to San Diego, Cal., for field service.

Fletcher, John P., lieut., left Fort D. A. Russell, Wyo., with the 9th Cavalry to Fort Sam Houston, Texas.

Dutcher, Basil H., major, reports arrival at San Antonio, Texas, to assume command of the field hospital.

Fauntleroy, P. C., major; Beery, Harry R., lieut., and Jones, George B., M.R.C., report arrival at Camp San Antonio, Texas, with the 10th Infantry.

Mills, Fred H., M.R.C., left Fort Missoula, Mont., en route to Fort Assiniboin, Mont., detached duty.

Reynolds, F. P.; Fauntleroy, P. C.; Clayton, Jere B.; Bispham, William N.; Dean, Elmer A., majors; Bevans, James L., and Thomas, Henry D., captains. Orders directing the above officers to take a course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kan., is revoked.

Stone, Frank P., D.S., left presidio of Monterey, en route to Fort Rosecrans, Cal., for temporary duty.

Long, Charles J., D.S., reported for temporary duty at Fort Williams, Maine.

Medical Corps, U. S. Navy

Changes during the week ended March 18, 1911.

Morris, L., surgeon, detached from the naval supply depot, navy yard, New York, and ordered to the *Hancock.*

Benton, F. L., surgeon, detached from the *Franklin* and ordered to the *Idaho.*

Plummer, R. W., surgeon, detached from the *Idaho* and ordered to the *Franklin.*

Cook, F. C., surgeon, detached from the *North Carolina* and ordered home to await orders.

Sykes, J. R., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the navy yard, Portsmouth, N. H., and to additional duty in connection with the *Southery, Topeka*, and naval hospital at that place.

Old, E. H. H., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the *North Carolina*.

Hoyt, R. E., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Buffalo*.

McDowell, R. W., asst.-surgeon, detached from the Naval Academy and ordered to the Bureau of Medicine and Surgery, Navy department.

Michels, R. H., A. A. surgeon, appointed acting assistant surgeon from March 10, 1911.

Richardson, R. R., surgeon, detached from the *Prairie* and ordered to the *Virginia*.

Ohnesorg, K., surgeon, detached from the *Virginia* and ordered to the *Prairie*.

Crandall, R. P., surgeon, detached from the *Hancock* and ordered to treatment at the Naval Hospital, New York.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 15, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to Trenton, N. J., on special temporary duty.

Collins, G. L., P. A. surgeon, directed to proceed to Boston, and report to the medical officer in command for duty and assignment to quarters.

Salmon, T. W., P. A. surgeon, granted six months' leave of absence from April 18, 1911, without pay.

Frost W. H., P. A. surgeon, directed to proceed to Savannah, Ga., on special temporary duty.

Simpson, Friench, P. A. surgeon, granted fifteen days' leave of absence from March 20, 1911.

DeForest, C. M., A. A. surgeon, granted two weeks' leave of absence from April 25, 1911, without pay.

Duke, B. F., A. A. surgeon, granted fifteen days' leave of absence from Feb. 14, 1911, on account of sickness.

Horning, Henry, A. A. surgeon, granted seven days' leave of absence from March 8, 1911, under paragraph 191, Service Regulations.

Kuhn, C. F., A. A. surgeon, granted thirty days' leave of absence from April 15, 1911, with pay, and two months without pay, from May 15, 1911.

Weeks, A., A. A. surgeon, granted thirty days' leave of absence from March 6, 1911.

Wright, F. W., A. A. surgeon, granted eight days' leave of absence from March 18, 1911.

Board of medical officers convened to meet at the Marine Hospital, Portland, Maine, on call of the chairman, to conduct a medical survey of an officer of the Revenue Cutter Service. Detail for the board: Surgeon C. E. Banks, chairman; Surgeon J. M. Eager, recorder.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

(Continued from page 844)

The address of the president, Dr. John A. Witherspoon, will appear in full in The Journal.

Entrance Requirements for Admission to the Medical Course

Dr. George Edwin MacLean, President of the University of Iowa: The entrance requirements should be met absolutely without conditions. The work of the medical college is so heavy that the student should not be permitted to drag any entrance conditions after him. The success of the instruction in the first year is imperiled if the student must divide his attention between his current studies and back work. The abolition of conditions removes opportunities for college authorities, overzealous about attendance, or tempted to dishonesty in administration, to evade the published requirements. If the ideal requirement is adhered to, not less than two years of college work, there is little or no sense for one to seek admission to the medical school with a condition.

I would have the *preliminary education* consist of graduation from an accredited high school, *normal school* or academy plus two years taken in an accredited college of liberal arts, with a course of at least one year each devoted to physics, chemistry and biology. The entrance requirements to the collegiate work should be made more flexible, the number of *specifically* required subjects in the secondary education being reduced in view of the fact that the two years in liberal arts round out the four years of the secondary school. In the period of six years there should be *not less than* two years of Latin or Greek, or four years of modern languages with the elements of Latin grammar, two years of mathematics, two years of English, one year of history and one year each of physics, chemistry and biology, preferably done in college. If temporarily, some schools must be allowed the liberty of admitting on a four-year high school basis, and therefore think it necessary to *specify* rather particularly certain entrance requirements, might it *not* be *possible* to permit such colleges as require the two years of collegiate study for admission not to require specific subjects beyond Latin, physics, chemistry and biology? Practically every high school student will offer a reasonable amount in English, history and mathematics. The wider range of time given in which to complete the required subjects would largely do away with the evil of estimating equivalents and the frauds sometimes perpetrated in these estimates. This would also gain time for the extension of the professional courses, including hospital work.

The unit of measurement should be the "unit." Such terms as "count," "point" and "credit" should be discontinued. With reference to examinations, I would suggest that they total not less than fifteen units in required and elective subjects. I would select major topics in the four fields of language and literature, history, mathematics and science, instead of giving detailed examinations in all the subjects enumerated. The examiner should be an expert university or college examiner meeting the few individuals who have prepared by tutoring or in unaccredited schools or through misfortune and age, come up without institutional training. He should size up these personalities in connection with all the records presented and use his discretion in giving a chance for these individuals in the college of medicine. We must preserve opportunities for individuals in this day of emphasis or institutionalism. The examiner can be depended on to conserve standards.

The entrance requirements, then, should be fifteen units of secondary school work in an accredited school, plus thirty hours of college work, the secondary and collegiate work embracing the required subjects of not less than two units of Latin or Greek, or four units of modern languages, provided an examination is passed in the elements of Latin grammar, two units of mathematics, one unit of history, two units of English, one unit or year hour each of physics, chemistry and biology. The candidate for admission should not be permitted to enter the college of medicine with conditions. The administration of these standards is to be by boards empowered by statute to administer them, and by accredited schools and colleges, and by authorized examiners not members of the medical colleges concerned.

DISCUSSION

Dr. Egbert LeFevre, University of Bellevue Hospital Medical College: One of the biggest stumbling blocks in the way of the medical colleges is the attitude of the universities not connected with the state toward this two-year college requirement. In the West the high school and university courses are correlated. In the East there is no such correlation. We have dissociated universities and colleges so that there is a great impediment to students passing from one to the other, and that makes it doubly hard for a high school pupil to get two years of college work and then pass smoothly into college work. We demand an intensive course preparatory to a professional education which cannot be given in the professional or technical school, but in making this demand we place our students at a disadvantage because of this attitude on the part of the universities who do not wish to modify their curriculum to suit these two-year men. Until they accept it as a part of their duty to correlate their entrance requirements with the generally accepted and accredited high schools, there is going to be great difficulty in advancing men from the high school into the college to meet the requirements Dr. MacLean has mentioned.

Dr. Randolph Winslow, University of Maryland: I wish to endorse the suggestion that any man who has been unfortunate enough not to be able to secure the necessary collegiate training should have the right to get a medical education if he is capable.

Dr. H. D. Arnold, Boston: I think we may admit that the strict regulations which we have tried to place about our examinations are due to the fact that we are not living up to our present standards. What we need more than anything else is a minimum that will be lived up to.

Dr. J. S. Ferguson, Cornell University: It seems to me anomalous that the same effort that tends to elevate the degree of M.D. should lower the degree of A.B. If we would endeavor to exercise our influence with the colleges not to do that, we would be able to secure preparatory medical courses in the non-state-supported institutions.

Dr. Arthur Dean Bevan, Rush Medical College: Modern medicine demands a certain preliminary training. It demands that a man have a well-rounded secondary school education and a training in chemistry, physics and biology. The colleges which do not require that are doing poor, inefficient work in the light of the demands of modern medicine. Medical education also demands one year of practical training in a hospital where the student is part of the hospital machinery for the care of patients.

Administration of Entrance Requirements

Dr. B. D. Harison, Michigan State Board of Registration in Medicine: The proper method of administering requirements is by the board itself, covering credentials and credits, and in the event of an applicant not having the required qualification, he should be referred to a board of preliminary examiners, consisting of not less than four high school principals or superintendents for regular examination on the standard set by the board, covering a high school credential and its symmetrical features. This board reports its findings to the medical board. A properly constituted board of this kind will, in my experience, refuse the proper certificate to at least 75 per cent. of the applicants. This is not only an honest administration, but a practical one.

(To be continued)

AMERICAN CONFEDERATION OF RECIPROCATING EXAMINING AND LICENSING MEDICAL BOARDS

Ninth Annual Meeting, held in Chicago, March 3, 1911

The President, Dr. William A. Spurgeon, Muncie, Ind., in the Chair

Officers Elected

Dr. Spurgeon was reelected president and Dr. B. D. Harison, secretary; Dr. A. W. Alvord, Battle Creek, Mich., was elected vice-president.

Report of Secretary

Dr. Harison reported that the following states (fourteen) are now in membership in the confederation: Georgia, Indiana, Iowa, Kansas, Maryland, Michigan, Nebraska, Nevada, North Dakota, Ohio, Oklahoma, Utah, West Virginia and Wisconsin.

The following states (nineteen) reciprocate on the basis of the qualifications adopted by the confederation, but are not in membership: Arkansas, Colorado, Delaware, District of Columbia, Illinois, Kentucky, Louisiana, Maine, Minnesota, Missouri, New Hampshire, New Jersey, New York, South Carolina, Tennessee, Texas, Vermont, Virginia and Wyoming.

From Jan. 1, 1910, to Jan. 1, 1911, 1,000 reciprocal registrations were made by twenty-five states, 894 on the basis of Qualification No. 1 and 106 on the basis of Qualification No. 2.

Report of Committee on College Inspection

Dr. Spurgeon, chairman, reported that the following constituted the committee on college inspection: W. A. Spurgeon, Indiana, chairman; A. W. Alvord, Michigan; H. A. Barbee, West Virginia; H. H. Baxter, Ohio; I. H. Goss, Georgia; E. A. Carr, Nebraska; J. V. Stevens, Wisconsin. It was recommended that any inspection made be in the company of some representative of the state board of the state wherein the inspection was made, since each state board was the court of last resort regarding these matters in its own state. It was resolved also that the examiner should cooperate with the Council on Medical Education of the American Medical Association and with the Association of American Medical Colleges. The standard of rating was to be the standard adopted by the confederation in 1908.

Dr. J. V. Stevens, secretary, reported that it was decided to ask the colleges to pay the expense of the inspection. The work cannot be completed before the next meeting of the confederation, and no information can be given out now.

Report of Committee on Amalgamation with the National Confederation

Dr. Harison, chairman, reported that a conference was held with a committee from the national confederation in June, 1910, but that no definite action was taken at that time. It was considered desirable that the two confederations unite, but the basis for such a merger could not be made mutually agreeable then. The following communication bearing on this subject was then presented:

Chicago, March 2, 1911.

At the call of Dr. W. P. Harlow, dean of the School of Medicine of the University of Colorado, and president of the Association of American Medical Colleges, the following persons met in an informal conference for the purpose of discussing how a union of the two confederations of state examining and licensing boards might be effected:

Dr. Arthur Dean Bevan and Dr. N. P. Colwell, chairman and secretary, respectively, of the Council on Medical Education of the American Medical Association; Dr. Charles A. Tuttle and Dr. George H. Matson, president and secretary, respectively, of the National Confederation of State Medical Examining and Licensing Boards; Dr. William A. Spurgeon and Dr. B. D. Harison, president and secretary, respectively, of the American Confederation of Reciprocating Examining and Licensing Medical Boards; Mr. Abraham Flexner of the Carnegie Foundation for the Advancement of Teaching; Dr. William P. Harlow and Dr. Fred C. Zapffe, president and secretary, respectively, of the Association of American Medical Colleges.

On motion of Dr. Bevan, Dr. Harlow was made chairman and Dr. Zapffe secretary of the conference.

On motion of Dr. Bevan, seconded by Dr. Harison, it was voted that it be the sense of the conference that it is desirable that there be in this country one strong organization of state examining and licensing boards.

On motion of Dr. Matson, seconded by Dr. Colwell, it was voted that the name of such an organization might well be the National Federation of State Medical Boards.

On motion of Dr. Harison, seconded by Dr. Matson, it was voted that the membership of such an organization should consist of members, fellows and associates; that state boards only to be entitled to membership, with power to vote; ex-state board members to be elected to fellowship, without vote, and physicians, not members of an examining or licensing board, who are interested in medical education and state licensure, to be elected to associate membership (without vote) by a two-thirds vote of the members present at any meeting. Only fellows are to be exempt from the payment of dues.

William P. Harlow, Chairman.
Fred C. Zapffe, Secretary.

By a resolution presented by Dr. A. W. Alvord, it was voted that the president and secretary of the confederation with three others selected by the president constitute a committee to meet with a similar committee representing the national confederation for the purpose of effecting an amalgamation of the two organizations. The committee appointed consists of Drs. A. W. Alvord, Michigan; E. A. Carr, Nebraska; H. H. Baxter, Ohio; William A. Spurgeon, Indiana, and B. D. Harison, Michigan.

Cook, F. C., surgeon, detached from the *North Carolina* and ordered home to await orders.

Sykes, J. R., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the navy yard, Portsmouth, N. H., and to additional duty in connection with the *Southern, Topeka*, and naval hospital at that place.

Old, E. H. H., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., *and ordered to the North Carolina.*

Hoyt, R. E., P. A. surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Buffalo.*

McDowell, R. W., asst.-surgeon, detached from the Naval Academy and ordered to the Bureau of Medicine and Surgery, Navy department.

Michels, R. H., A. A. surgeon, appointed acting assistant surgeon from March 10, 1911.

Richardson, R. R., surgeon, detached from the *Prairie* and ordered to the *Virginia.*

Ohnesorg, K., surgeon, detached from the *Virginia* and ordered to the *Prairie.*

Crandall, R. P., surgeon, detached *from the Hancock* and ordered to treatment at the Naval Hospital, New York.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 15, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to Trenton, N. J., on special temporary duty.

Collins, G. L., P. A. surgeon, directed to proceed to Boston, and report to the medical officer in command for duty and assignment to quarters.

Salmon, T. W., P. A. surgeon, granted six months' leave of absence from April 18, 1911, without pay.

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Horning, Henry, A. A. surgeon, granted seven days' leave of absence from March 8, 1911, under paragraph 191, Service Regulations.

Kuhn, C. F., A. A. surgeon, granted thirty days' leave of absence from April 15, 1911, with pay, and two months without pay, from May 15, 1911.

Weeks, A., A. A. surgeon, granted thirty days' leave of absence from March 6, 1911.

Wright, F. W., A. A. surgeon, granted eight days' leave of absence from March 18, 1911.

Board of medical officers convened to meet at the Marine Hospital, Portland, Maine, on call of the chairman, to conduct a medical survey of an officer of the Revenue Cutter Service. Detail for the board: Surgeon C. E. Banks, chairman; Surgeon J. M. Eager, recorder.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

(Continued from page 8[illegible])

The address of the president, Dr. John A. Witherspoon, will appear in full in The Journal.

Entrance Requirements for Admission to the Medical Course

Dr. George Edwin MacLean, President of the University of Iowa: The entrance requirements should be met absolutely without conditions. The work of the medical college is so heavy that the student should not be permitted to drag any entrance conditions after him. The success of the instruction in the first year is imperiled if the student must divide his attention between his current studies and back work. The abolition of conditions removes opportunities for college authorities, overzealous about attendance, or tempted to dishonesty in administration, to evade the published requirements. *If the ideal requirement is adhered to, not* less than two years of college work, there is little or no sense for one to seek admission to the medical school with a condition.

I would have the preliminary education consist of graduation from an accredited high school, normal school or academy plus two years taken in an accredited college of liberal arts with a course of at least one year each devoted to physics chemistry and biology. The entrance requirements to the collegiate work should be made more flexible, the number o specifically required subjects in the secondary education being reduced in view of the fact that the two years in liberal arts round out the four years of the secondary school. In the period of six years there should be not less than two year of Latin or Greek, or four years of modern languages with th elements of Latin grammar, two years of mathematics, tw years of English, one year of history and one year each o physics, chemistry and biology, preferably done in college. If *temporarily, some schools must* be allowed the liberty o admitting on a four-year high school basis, and therefor think it necessary to specify rather particularly certai entrance requirements, might it not be possible *to permi* such colleges as require the two years of collegiate study fo admission not to require specific subjects beyond Latin, physics, chemistry and biology? Practically every high schoo student will offer a reasonable amount in English, history an mathematics. The wider range of time given in which to complete the required subjects would largely do away with th evil of estimating equivalents and the frauds sometimes perpetrated in these estimates. This would also gain time fo the extension of the professional courses, including hospita work.

The unit of measurement should be the "unit." Such term as "count," "point" and "credit" should be discontinued. Wit reference to examinations, I would suggest that they tota not less than fifteen units in required and elective subject I would select major topics in the four fields of language an literature, history, mathematics and science, instead of givin *detailed examinations in all the subjects enumerated.* Th examiner should be an expert university or college examine meeting the few individuals who have prepared by tutoring o in unaccredited schools or through misfortune and age, come u without institutional training. He should size up these personalities in connection with all the records presented an use his discretion in giving a chance for these individuals i the college of medicine. We must preserve opportunities fo individuals in this day of emphasis or institutionalism. Th examiner can be depended on to conserve standards.

The entrance requirements, then, should be fifteen units o secondary school work in an accredited school, plus thirt hours of college work, the secondary and collegiate wor embracing the required subjects of not less than two units o Latin or Greek, or four units of modern languages, provide an examination is passed in the elements of Latin gramma two units of mathematics, one unit of history, two units o English, one unit or year hour each of physics, chemistry an biology. The candidate for admission should not be permitte to enter the college of medicine with conditions. The administration of these standards is to be by boards empowered b statute to administer them, and by accredited schools an colleges, and by authorized examiners not members of th medical colleges concerned.

DISCUSSION

Dr. Egbert LeFevre, University of Bellevue Hospital Medical College: One of the biggest stumbling blocks in the wa of the medical colleges is the attitude of the universities no connected with the state toward this two-year college requirement. In the West the high school and university course are correlated. In the East there is no such correlation. W have dissociated universities and colleges so that there is great impediment to students passing from one to the other and that makes it doubly hard for a high school pupil to ge two years of college work and then pass smoothly into college work. We demand an intensive course preparatory to a professional education which cannot be given in the professional or technical school, but in making this demand we place our students at a disadvantage because of this attitude on the part of the universities who do not wish to modify their curriculum to suit these two-year men. Until they accept it as a part of their duty to correlate their entrance requirements with the generally accepted and accredited high schools, there is going to be great difficulty in advancing men from the high school into the college to meet the requirements Dr. MacLean has mentioned.

DR. RANDOLPH WINSLOW, University of Maryland: I wish to endorse the suggestion that any man who has been unfortunate enough not to be able to secure the necessary collegiate training should have the right to get a medical education if he is capable.

DR. H. D. ARNOLD, Boston: I think we may admit that the strict regulations which we have tried to place about our examinations are due to the fact that we are not living up to our present standards. What we need more than anything else is a minimum that will be lived up to.

DR. J. S. FERGUSON, Cornell University: It seems to me anomalous that the same effort that tends to elevate the degree of M.D. should lower the degree of A.B. If we would endeavor to exercise our influence with the colleges not to do that, we would be able to secure preparatory medical courses in the non-state-supported institutions.

DR. ARTHUR DEAN BEVAN, Rush Medical College: Modern medicine demands a certain preliminary training. It demands that a man have a well-rounded secondary school education and a training in chemistry, physics and biology. The colleges which do not require that are doing poor, inefficient work in the light of the demands of modern medicine. Medical education also demands one year of practical training in a hospital where the student is part of the hospital machinery for the care of patients.

Administration of Entrance Requirements

DR. B. D. HARISON, Michigan State Board of Registration in Medicine: The proper method of administering requirements is by the board itself, covering credentials and credits, and in the event of an applicant not having the required qualification, he should be referred to a board of preliminary examiners, consisting of not less than four high school principals or superintendents for regular examination on the standard set by the board, covering a high school credential and its symmetrical features. This board reports its findings to the medical board. A properly constituted board of this kind will, in my experience, refuse the proper certificate to at least 75 per cent. of the applicants. This is not only an honest administration, but a practical one.

(*To be continued*)

AMERICAN CONFEDERATION OF RECIPROCATING EXAMINING AND LICENSING MEDICAL BOARDS

Ninth Annual Meeting, held in Chicago, March 3, 1911

The President, DR. WILLIAM A. SPURGEON, Muncie, Ind., in the Chair

Officers Elected

Dr. Spurgeon was reelected president and Dr. B. D. Harison, secretary; Dr. A. W. Alvord, Battle Creek, Mich., was elected vice-president.

Report of Secretary

Dr. Harison reported that the following states (fourteen) are now in membership in the confederation: Georgia, Indiana, Iowa, Kansas, Maryland, Michigan, Nebraska, Nevada, North Dakota, Ohio, Oklahoma, Utah, West Virginia and Wisconsin.

The following states (nineteen) reciprocate on the basis of the qualifications adopted by the confederation, but are not in membership: Arkansas, Colorado, Delaware, District of Columbia, Illinois, Kentucky, Louisiana, Maine, Minnesota, Missouri, New Hampshire, New Jersey, New York, South Carolina, Tennessee, Texas, Vermont, Virginia and Wyoming.

From Jan. 1, 1910, to Jan. 1, 1911, 1,000 reciprocal registrations were made by twenty-five states, 894 on the basis of Qualification No. 1 and 106 on the basis of Qualification No. 2.

Report of Committee on College Inspection

Dr. Spurgeon, chairman, reported that the following constituted the committee on college inspection: W. A. Spurgeon, Indiana, chairman; A. W. Alvord, Michigan; H. A. Barbee, West Virginia; H. H. Baxter, Ohio; I. H. Goss, Georgia; E. A. Carr, Nebraska; J. V. Stevens, Wisconsin. It was recommended that any inspection made be in the company of some representative of the state board of the state wherein the inspection was made, since each state board was the court of last resort regarding these matters in its own state. It was resolved also that the examiner should cooperate with the Council on Medical Education of the American Medical Association and with the Association of American Medical Colleges. The standard of rating was to be the standard adopted by the confederation in 1908.

Dr. J. V. Stevens, secretary, reported that it was decided to ask the colleges to pay the expense of the inspection. The work cannot be completed before the next meeting of the confederation, and no information can be given out now.

Report of Committee on Amalgamation with the National Confederation

Dr. Harison, chairman, reported that a conference was held with a committee from the national confederation in June, 1910, but that no definite action was taken at that time. It was considered desirable that the two confederations unite, but the basis for such a merger could not be made mutually agreeable then. The following communication bearing on this subject was then presented:

CHICAGO, March 2, 1911.

At the call of Dr. W. P. Harlow, dean of the School of Medicine of the University of Colorado, and president of the Association of American Medical Colleges, the following persons met in an informal conference for the purpose of discussing how a union of the two confederations of state examining and licensing boards might be effected:

Dr. Arthur Dean Bevan and Dr. N. P. Colwell, chairman and secretary, respectively, of the Council on Medical Education of the American Medical Association; Dr. Charles A. Tuttle and Dr. George H. Matson, president and secretary, respectively, of the National Confederation of State Medical Examining and Licensing Boards; Dr. William A. Spurgeon and Dr. B. D. Harison, president and secretary, respectively, of the American Confederation of Reciprocating Examining and Licensing Medical Boards; Mr. Abraham Flexner of the Carnegie Foundation for the Advancement of Teaching; Dr. William P. Harlow and Dr. Fred C. Zapffe, president and secretary, respectively, of the Association of American Medical Colleges.

On motion of Dr. Bevan, Dr. Harlow was made chairman and Dr. Zapffe secretary of the conference.

On motion of Dr. Bevan, seconded by Dr. Harison, it was voted that it be the sense of the conference that it is desirable that there be in this country one strong organization of state examining and licensing boards.

On motion of Dr. Matson, seconded by Dr. Colwell, it was voted that the name of such an organization might well be the National Federation of State Medical Boards.

On motion of Dr. Harison, seconded by Dr. Matson, it was voted that the membership of such an organization should consist of members, fellows and associates; that state boards only to be entitled to membership, with power to vote; ex-state board members to be elected to fellowship, without vote, and physicians, not members of an examining or licensing board, who are interested in medical education and state licensure, to be elected to associate membership (without vote) by a two-thirds vote of the members present at any meeting. Only fellows are to be exempt from the payment of dues.

WILLIAM P. HARLOW, Chairman.
FRED C. ZAPFFE, Secretary.

By a resolution presented by Dr. A. W. Alvord, it was voted that the president and secretary of the confederation with three others selected by the president constitute a committee to meet with a similar committee representing the national confederation for the purpose of effecting an amalgamation of the two organizations. The committee appointed consists of Drs. A. W. Alvord, Michigan; E. A. Carr, Nebraska; H. H. Baxter, Ohio; William A. Spurgeon, Indiana, and B. D. Harison, Michigan.

By another resolution presented by Dr. Spurgeon, it was voted that specific education provisions in a medical practice act tend to weaken the law and to limit the educational standards in the state; that the confederation recommends the conferring of discretionary powers on the board of registration in the matter of educational control, and that the law should provide that the board make, establish and require such rules and regulations for the control of medical colleges as shall keep the educational standard of the state at least on a par with the average standard of surrounding states.

Entrance Requirements

DR. B. D. MYERS, University of Indiana, discussed the present requirements for admission to medical colleges demanded by fifteen medical colleges beyond the high school graduation, and presented some data compiled by the secretary of the Council on Medical Education of the American Medical Association, showing the lack of uniformity in these requirements. Six schools demand sixty hours of work, or two years of college work, in addition to the four years of high school work; eight demand from sixty-one to sixty-nine hours, and one school demands as high as eighty-two hours. Among the required subjects are physics (twelve colleges); botany and zoology or either (thirteen colleges); vertebrate anatomy (four); embryology (two); osteology (one); English (eleven); modern language (twelve); chemistry (fourteen); psychology (seven); Latin (one); economics, sociology, history and political science (eight); mathematics (five); hygiene (one); military drill (one); electives offered (seven). Four colleges offer electives to the extent of twenty-one, twenty-four, thirty-two and thirty-three hours, respectively, out of a total of sixty hours.

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Fourth Weekly Meeting

PUERPERAL INJURIES

INJURIES OF THE PELVIC FLOOR: Varieties: 1. Superficial median tears. 2. Deep median tears, involving sphincter. 3. Lateral tears involving sulci. Pathology and diagnosis of each.

TREATMENT OF PERINEAL LACERATIONS: Indications and contra-indications for primary and for secondary operations.

Technic of repair (a) of deep (complete) laceration, (b) of laceration involving sulci.

After-treatment of operations for repair of perineal lacerations.

INJURIES OF CERVIX UTERI

VARIETIES: Bilateral, unilateral, stellate.

SYMPTOMS: Backache, bearing-down feeling, headache, leukorrhea, menstrual disorders, sterility, abortion.

Indications and contra-indications for repair of laceration of cervix.

Preliminary and preparatory treatment.

Technic of trachelorrhaphy, of amputation of cervix.

Monthly Meeting

The Differential Diagnosis of Ovarian Cysts.

The Non-Surgical Treatment of Retrodisplacements of the Uterus.

The Symptoms and Diagnosis of Fibromyomata of the Uterus.

The Prophylaxis and Treatment of Puerperal Injuries of Cervix and Perineum.

Book Notices

AN INTRODUCTION TO VERTEBRATE EMBRYOLOGY. Based on the Study of the Frog, Chick and Mammal. By Albert Moore Reese, Ph.D. (Johns Hopkins), Professor of Zoology in West Virginia University. Second Edition. Cloth. Price, $1.50 net. Pp. 340, with 118 illustrations. New York: G. P. Putnam's Sons, 1909.

Since the development of man and other mammals is, in most particulars, strikingly like that of the chick, a study of the latter is helpful. In this book the author presents an outline of the main facts of the embryology of the chick—also of the frog—keeping in mind particularly the needs of the medical student. The description considers periods of development: all the changes that take place during a certain period are described in one section; instead of describing at one time the complete development of any one organ. This method is not only pedagogically correct but enables the student to grasp facts better and more quickly. Theoretical discussions are carefully avoided. The author has added a chapter of forty pages on "The Development of the Mammal," in which are pointed out the main differences between the embryologic processes of the chick and those of man

WE YOUNG MEN. The Sexual Problem of an Educated Young Man Before Marriage: Purity, Strength and Love. By Hans Wegener. Introduction by Sylvanus Stall. Paper. Price, 70 cents. Pp. 204. Philadelphia: Vir Publishing Co., 1911.

It was a most commendable piece of work to translate this German book, thereby making it available for young men who read English. As the advertisements state, it is a square talk face to face. It is a delicate but vigorous presentation of clean living. Some will object to the frank way in which the author takes for granted that some young men seriously consider the breaking of various moral laws concerning sexual indulgence. For this very reason, however, the book will have greater weight with this class of men than the numerous books already on the market which preach to young men. We do not mean to suggest that this book is not on a high plane, for it is full of noble and lofty appeal to the best that is in a man; but it meets young men on their own level, and it has the valuable quality of convincing the reader that the author has been in pretty close touch with these problems. The book is a good one to succeed "The Boy's Venereal Peril," being intended for youths who are a little more mature.

RADIUM: ITS PHYSICS AND THERAPEUTICS. By Dawson Turner, B.A., M.D., F.R.C.P., Edin., Lecturer on Medical Physics, Surgeons' Hall, Edinburgh. Cloth. Price, $1.75 net. Pp. 86, with 27 illustrations. New York: William Wood & Co., 1911.

This is a little octavo book of only 86 pages, hardly larger than some of the elaborate papers on radium therapy, but it satisfactorily covers the subject. The essential facts in the physics and the principles of the therapeutic application of radium are clearly and simply given, without any of the complexity usually found in articles on the subject, which indicates more than anything else a hazy knowledge on the part of the writer. It may be specially noted that Turner considers carefully the histologic changes produced by radium in both healthy and diseased tissues—a topic which would seem to be of obvious importance in any consideration of radium therapy, but one, so far as we know, which no other book on the subject has given in detail. The book is a fine example of how simply and briefly a rather muddled subject can be stated by one who understands it and who has the ability to think clearly and distinguish essentials from trivialities.

PRACTICAL PHYSIOLOGY. Edited by M. S. Pembrey. By Various Contributors. Third Edition. Coth. Price, $4 net. Pp. 480, with 253 illustrations. New York: Longmans, Green & Co., 1910.

In this book not only are the facts of the physiology of the human organism taught according to the latest deductions and conclusions, but each is demonstrated by an abundance of experiments, both elementary and more advanced, and the practical application made with reference both to normal and pathologic function in the practice of medicine. Physiologic chemistry, in both its elementary and its more advanced aspects, is clearly treated, Part IV being devoted to the latter. The impression conveyed in an examination is that this book constitutes, not a mere enumeration of the facts of physiology, but a helpful, practical work on physiology, from the standpoint of the student or the practitioner.

Medicolegal

Expert Evidence Without Statement of Facts and Right to Show Latter

The Court of Appeals of New York holds, in the homicide case of People vs. Faber (92 N. E. R. 674), that there was no error in allowing physicians to express their opinions in regard to the sanity of the defendant without previously stating in detail the observations on which the opinions were based.

The court says that in the early history of the courts of England mere opinion evidence was wholly rejected. The admission of opinions as evidence by persons specially qualified by skill and experience to speak as experts has been a matter of development both in England and in this country. The history of the admission of such evidence with illustrations from decisions of the courts is given by Wigmore in his exhaustive work on Evidence, and in connection therewith he refers to the practice of admitting opinion evidence by experts based on observation, and concludes that evidence by experts of conceded skill and experience may be received when based on the observation of the witness without in the first instance necessarily requiring that the facts observed be stated to the court and jury. There is a great difference in the decisions of the courts of the states on this subject, but this court is in accord with the conclusions reached by Mr. Wigmore.

In common practice in the courts a physician who has examined a patient is allowed to testify directly as to the disease from which the patient is suffering. There seems to be no good reason for requiring a physician to specify in detail his observations before expressing an opinion as to the sanity or insanity of a person examined by him any more than he should be required to recount such observations in advance of expressing an opinion as to whether a person had typhoid fever or was suffering from an epileptic fit. It is competent, however, for a person offering an expert as a witness, for the purpose of showing the strength of the opinion which he is about to express, to specify in detail the observations on which the opinion is based. It is also, of course, competent for the opposite party on cross-examination to call for the observations, and probe the underlying facts to the fullest extent for the purpose of thus affecting, so far as possible, the strength of the opinion expressed or to form a basis on which other experts may be asked to contradict or explain the opinion first expressed.

Weight to be Given Expert Testimony

The Supreme Court of Georgia holds, in Rouse vs. State (69 S. E. R. 180) that, there being no statute prescribing the weight which shall be given to the testimony of an expert, what consideration such evidence is entitled to is a question solely for the jury. Under this principle, it was error to charge the jury that, "When the experience, honesty, and impartiality of the expert is undoubted by the jury, his testimony is entitled to great weight. It is not, however, so authoritative that the jury is bound to be governed by it. It is advisory merely, and such testimony is intended to assist you in coming to a correct conclusion." Moreover, such charge was error despite the fact that witnesses both for the state and for the accused testified on the trial of the case.

Crime Not Affected by Lack of Skill in Treatment of Wounds

The Supreme Court of Georgia holds, on the appeal of Perdue vs. State (69 S. E. R. 184), a homicide case, that, where one inflicts on another a wound with a weapon likely to produce death, and the person wounded actually dies in consequence of the wound, the quality of the act of the slayer cannot be affected by a lack of skill and care on the part of those who treat or attempt to treat the wounds and administer remedies therefor.

Current Medical Literature

[In the abstract of the case report of "Heroin Poisoning," made from the *Kentucky Medical Journal*, February 15, in THE JOURNAL, March 11, 1911, p. 777, the dose should have been 1/12 of a grain of heroin, instead of ½.]

·AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 9

1 *Dependence of Intestinal Indigestion on Gastric Disturbances. A. E. Austin, New York.
2 *The Possible Effect of Salvarsan on the Auditory Labyrinth. G. Alexander, Vienna.
3 Treatment of Fistula in Ano. T. C. Hill, Boston.

1. **Dependence of Intestinal Indigestion on Gastric Disturbances.**—Austin concludes that diarrhea does not always accompany an achylia nor a hypochlorhydria, nor can one, from the presence of connective tissue in the stool, always deduce the state of the gastric juice. Furthermore, while hyperchlorhydria is usually accompanied by constipation, there may be diarrhea, or the bowels may be regular, while with gastric myasthenia constipation is the rule, as it is in hypersecretion. A functional chronic catarrh of the small intestine may exist associated with any of these gastric conditions, with excessive or no free hydrochloric acid, and with increased or impaired motility, so that one can only say that improperly prepared food is poured into the small intestine which, either on account of this extra burden or on account of some antecedent inflammatory disturbance, undergoes a functional impairment that usually manifests itself by the increased motility.

2. **Effect of Salvarsan on the Auditory Labyrinth.**—Personal observations lead Alexander to recommend caution in the use of salvarsan in cases of acute syphilis of the auditory nerve. Especially is caution in the use of the remedy recommended in the presence of acute or chronic disease of the auditory nerve in cases of recent syphilis, as here it is to be feared that the ear symptoms will be made worse. It appears to make no difference whether the disease of the auditory nerve is of itself of syphilitic origin or not. An unfavorable influence is also to be feared in cases of acute syphilitic affection of the auditory nerve in old cases of syphilis or latent chronic syphilis. In cases of hereditary syphilis, in the presence of acute manifestations of trouble with the auditory nerve, it is advisable to wait before giving the injection. On the other hand, there are a large number of cases of ear disease in which the dangers from the injection cannot be considered as dependent on it. Here belong the cases of chronic syphilitic affection of the auditory nerve with slight diminution of hearing power and considerable tinnitus, as well as the cases of chronic labyrinth dizziness. Alexander found that the injection has a good effect in cases of chronic labyrinth disease in chronic syphilis.

Medical Record, New York

March 11

4 *Pellagra as We See It in Italy; Old and New Theories; Report of Cases Seen in New York City. A. Caccini, New York.
5 *A New Variant for Ventral Hernioplasty. A. G. Gerster, New York.
6 *Hypodermic Injections of the Salicylates in Rheumatism. A. Seibert, New York.
7 Treatment of Acute Mania. C. P. Noble, Philadelphia.
8 Unilateral Chyluria Caused by the Filaria Sanguinis Hominis Treated by Salvarsan. P. M. Pilcher and J. T. Pilcher, Brooklyn, N. Y.
9 *Artificial Muscles in the Early Treatment of Infantile Paralysis; a New Method. R. O. Meisenbach, Buffalo, N. Y.
10 Climatic Indications of Egypt in Otology and Laryngology. Dr. Goldman, Cairo, Egypt.

4. **Pellagra.**—While holding that we should follow with attention the new theories and the result of the researches on the etiology of pellagra conducted through new lines far apart from the theory well established by Lombroso, based on the use of Indian corn, and to its late *modifications*, Caccini urges caution in casting aside the result of careful inves-

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Varieties: Bilateral, unilateral, stellate.

Symptoms: Backache, bearing-down feeling, headache, leukorrhea, menstrual disorders, sterility, abortion.

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We Young Men. The Sexual Problem of an Educated Young Man Before Marriage: Purity, Strength and Love. By Hans Wegener. Introduction by Sylvanus Stall. Paper. Price, 70 cents. Pp. 204. Philadelphia: Vir Publishing Co., 1911.

It was a most commendable piece of work to translate this German book, thereby making it available for young men who read English. As the advertisements state, it is a square talk face to face. It is a delicate but vigorous presentation of clean living. Some will object to the frank way in which the author takes for granted that some young men seriously consider the breaking of various moral laws concerning sexual indulgence. For this very reason, however, the book will have greater weight with this class of men than the numerous books already on the market which preach to young men. We do not mean to suggest that this book is not on a high plane, for it is full of noble and lofty appeal to the best that is in a man; but it meets young men on their own level, and it has the valuable quality of convincing the reader that the author has been in pretty close touch with these problems. The book is a good one to succeed "The Boy's Venereal Peril," being intended for youths who are a little more mature.

Radium: Its Physics and Therapeutics. By Dawson Turner, B.A., M.D., F.R.C.P., Edin., Lecturer on Medical Physics, Surgeons' Hall, Edinburgh. Cloth. Price, $1.75 net. Pp. 86, with 27 illustrations. New York: William Wood & Co., 1911.

This is a little octavo book of only 86 pages, hardly larger than some of the elaborate papers on radium therapy, but it satisfactorily covers the subject. The essential facts in the physics and the principles of the therapeutic application of radium are clearly and simply given, without any of the complexity usually found in articles on the subject, which indicates more than anything else a hazy knowledge on the part of the writer. It may be specially noted that Turner considers carefully the histologic changes produced by radium in both healthy and diseased tissues—a topic which would seem to be of obvious importance in any consideration of radium therapy, but one, so far as we know, which no other book on the subject has given in detail. The book is a fine example of how simply and briefly a rather muddled subject can be stated by one who understands it and who has the ability to think clearly and distinguish essentials from trivialities.

Practical Physiology. Edited by M. S. Pembrey. By Various Contributors. Third Edition. Coth. Price, $4 net. Pp. 480, with 255 illustrations. New York: Longmans, Green & Co., 1910.

In this book not only are the facts of the physiology of the human organism taught according to the latest deductions and conclusions, but each is demonstrated by an abundance of experiments, both elementary and more advanced, and the practical application made with reference both to normal and pathologic function in the practice of medicine. Physiologic chemistry, in both its elementary and its more advanced aspects, is clearly treated, Part IV being devoted to the latter. The impression conveyed in an examination is that this book constitutes, not a mere enumeration of the facts of physiology, but a helpful, practical work on physiology, from the standpoint of the student or the practitioner.

Medicolegal

Expert Evidence Without Statement of Facts and Right to Show Latter

The Court of Appeals of New York holds, in the homicide case of People vs. Faber (92 N. E. R. 674), that there was no error in allowing physicians to express their opinions in regard to the sanity of the defendant without previously stating in detail the observations on which the opinions were based.

The court says that in the early history of the courts of England mere opinion evidence was wholly rejected. The admission of opinions as evidence by persons specially qualified by skill and experience to speak as experts has been a matter of development both in England and in this country. The history of the admission of such evidence with illustrations from decisions of the courts is given by Wigmore in his exhaustive work on Evidence, and in connection therewith he refers to the practice of admitting opinion evidence by experts based on observation, and concludes that evidence by experts of conceded skill and experience may be received when based on the observation of the witness without in the first instance necessarily requiring that the facts observed be stated to the court and jury. There is a great difference in the decisions of the courts of the states on this subject, but this court is in accord with the conclusions reached by Mr. Wigmore.

In common practice in the courts a physician who has examined a patient is allowed to testify directly as to the disease from which the patient is suffering. There seems to be no good reason for requiring a physician to specify in detail his observations before expressing an opinion as to the sanity or insanity of a person examined by him any more than he should be required to recount such observations in advance of expressing an opinion as to whether a person had typhoid fever or was suffering from an epileptic fit. It is competent, however, for a person offering an expert as a witness, for the purpose of showing the strength of the opinion which he is about to express, to specify in detail the observations on which the opinion is based. It is also, of course, competent for the opposite party on cross-examination to call for the observations, and probe the underlying facts to the fullest extent for the purpose of thus affecting, so far as possible, the strength of the opinion expressed or to form a basis on which other experts may be asked to contradict or explain the opinion first expressed.

Weight to be Given Expert Testimony

The Supreme Court of Georgia holds, in Rouse vs. State (69 S. E. R. 180) that, there being no statute prescribing the weight which shall be given to the testimony of an expert, what consideration such evidence is entitled to is a question solely for the jury. Under this principle, it was error to charge the jury that, "When the experience, honesty, and impartiality of the expert is undoubted by the jury, his testimony is entitled to great weight. It is not, however, so authoritative that the jury is bound to be governed by it. It is advisory merely, and such testimony is *intended* to assist you in coming to a correct conclusion." Moreover, such charge was error despite the fact that witnesses both for the state and for the accused testified on the trial of the case.

Crime Not Affected by Lack of Skill in Treatment of Wounds

The Supreme Court of Georgia holds, on the appeal of Perdue vs. State (69 S. E. R. 181), a homicide case, that, where one inflicts on another a wound with a *weapon likely* to produce death, and the person wounded actually dies in consequence of the wound, the quality of the act of the slayer cannot be affected by a lack of skill and care on the part of those who treat or attempt to treat the wounds and administer remedies therefor.

Current Medical Literature

[In the abstract of the case report of "Heroin Poisoning," made from the *Kentucky Medical Journal*, February 15, in THE JOURNAL, March 11, 1911, p. 777, the dose should have been 1/12 of a grain of heroin, instead of ½.]

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 9

1 *Dependence of Intestinal Indigestion on Gastric Disturbances. A. E. Austin, New York.
2 *The Possible Effect of Salvarsan on the Auditory Labyrinth. G. Alexander, Vienna.
3 Treatment of Fistula in Ano. T. C. Hill, Boston.

1. **Dependence of Intestinal Indigestion on Gastric Disturbances.**—Austin concludes that diarrhea does not always accompany an achylia nor a hypochlorhydria, nor can one, from the presence of connective tissue in the stool, always deduce the state of the gastric juice. Furthermore, while hyperchlorhydria is usually accompanied by constipation, there may be diarrhea, or the bowels may be regular, while with gastric myasthenia constipation is the rule, as it is in hypersecretion. A functional chronic catarrh of the small intestine may exist associated with any of these gastric conditions, with excessive or no free hydrochloric acid, and with increased or impaired motility, so that one can only say that improperly prepared food is poured into the small intestine which, either on account of this extra burden or on account of some antecedent inflammatory disturbance, undergoes a functional impairment that usually manifests itself by the increased motility.

2. **Effect of Salvarsan on the Auditory Labyrinth.**—Personal observations lead Alexander to recommend caution in the use of salvarsan in cases of acute syphilis of the auditory nerve. Especially is caution in the use of the remedy recommended in the presence of acute or chronic disease of the auditory nerve in cases of recent syphilis, as here it is to be feared that the ear symptoms will be made worse. It appears to make no difference whether the disease of the auditory nerve is of itself of syphilitic origin or not. An unfavorable influence is also to be feared in cases of acute syphilitic affection of the auditory nerve in old cases of syphilis or latent chronic syphilis. In cases of hereditary syphilis, in the presence of acute manifestations of trouble with the auditory nerve, it is advisable to wait before giving the injection. On the other hand, there are a large number of cases of ear disease in which the dangers from the injection cannot be considered as dependent on it. Here belong the cases of chronic syphilitic affection of the auditory nerve with slight diminution of hearing power and considerable tinnitus, as well as the cases of chronic labyrinth dizziness. Alexander found that the injection has a good effect in cases of chronic labyrinth disease in chronic syphilis.

Medical Record, New York

March 11

4 *Pellagra as We See It in Italy; Old and New Theories; Report of Cases Seen in New York City. A. Caccini, New York.
5 *A New Variant for Ventral Hernioplasty. A. G. Gerster, New York.
6 *Hypodermic Injections of the Salicylates in Rheumatism. A. Seibert, New York.
7 Treatment of Acute Mania. C. P. Noble, Philadelphia.
8 Unilateral Chyluria Caused by the Filaria Sanguinis Hominis Treated by Salvarsan. P. M. Pilcher and J. T. Pilcher, Brooklyn, N. Y.
9 *Artificial Muscles in the Early Treatment of Infantile Paralysis; a New Method. R. O. Meisenbach, Buffalo, N. Y.
10 Climatic Indications of Egypt in Otology and Laryngology. Dr. Goldman, Cairo, Egypt.

4. **Pellagra.**—While holding that we should follow with attention the new theories and the result of the researches on the *etiology* of pellagra conducted through new lines far apart from the theory well established by Lombroso, based on the use of Indian corn, and to its late modifications, Caccini urges caution in casting aside the result of careful inves-

tigations (based on well-established data) to embrace in our enthusiasm mere suggestions of young observers. Sambon's and Alessandrini's theories, that would tend to make of pellagra a disease of protozoal or parasitic nature, respectively, he would consider as mere suggestions, rather than theories or even intuitions of a new theory. As to the development in the United States, pellagra has been present in the United States in sporadic cases for a long time, but it has lately been diffused everywhere in the different states, assuming an epidemic character. The disease assumes a more acute course in contrast to its characteristics in Europe, and particularly in Italy, where, although very common, it has always the character of chronicity and the erythema never assumes the severe character which it does in the United States.

5. **New Variant for Hernioplasty.**—The procedure employed by Gerster in a case of large ventral hernia, without adhesions, is described as follows: An oval portion of the central area was excised as far as it was found to be thin and anemic, then the hernial aperture in the parietes was dissected out until the aponeuroses of the rectus and the oblique came into view under the laterally detached skin-flaps. After this, seven sutures of quadruple stout chromic catgut were used to approximate and keep in contact the edge of the rectus and the musculo-aponeurotic line of the oblique muscles, the sutures passing through the sheath of the rectus. Above this, a second row of single catgut sutures was superimposed, widening the surfaces of contact. Thus there were formed two redundant, cockscomb-shaped flaps of aponeurosis and stout cicatricial material, that met with their peritoneal faces above the stout sutures. Of these the external one was twice scored, thus scalloped into three digits, the inner one receiving three corresponding stabs, which would form three slits comfortably admitting the three fingerlike processes. Each process having been passed through its corresponding fenestrum was sutured at its extreme end to the underlying fascia of the rectus; the inner square edge of the fenestrated flap being likwise sutured to the aponeurosis of the underlying external oblique muscle by six or seven stitches. Over all this the skin was brought together and sewed with interrupted fine silk sutures.

6. **Salicylates in Rheumatism.**—That a salicylate solution could be injected hypodermically without discomfort to the patient, and that a sufficiently large injection of salicylic acid or sodium salicylate would destroy the vitality and inhibit the pathogenic action of rheumatic organisms in the human body in a few hours without causing symptoms of salicylic poisoning, is the belief Seibert holds as the result of observation. In acute rheumatic infection of joints, heart, pericardium, pleura and central nervous system (chorea), he injected 10 c.c. of a 20 per cent. sterilized solution of fresh sodium salicylate to 100 pounds of body weight, fifteen minutes after an appropriate cocain solution had been injected under the same spot. If the injections are made earlier than this, he found that the solution caused pain. This dose is repeated every twelve hours. In severe cases, with many localizations of the rheumatic process, he says that the dose *may* be increased to 15 c.c. of the solution to 100 pounds of body weight. He considers it essential to the success of this treatment that the above doses be used. Smaller doses will be without effect. The effect may be noticed within three hours after the first injection. Joint stiffness, pain, fever and pulse-rate diminish and the general feeling of the patient improves. If the injections are continued regularly, every twelve hours, the improvement also continues; if they are omitted for twenty-four hours in severe cases, the symptoms will grow worse; but in milder cases the improvement may continue, proving that a sufficient amount of the salicylate had already been injected to destroy all rheumatic organisms in that case.

In chronic cases 10 c.c. to 100 pounds of body weight of the following oily solution are injected every twenty-four hours: Acid salicylici, 10 grams (2½ drams); olei sesami, 80 grams (20 drams); alcohol, pure, and gum camphor, 5 grams (1¼ drams) each. This mixture is sterilized before the alcohol is added, but must not be exposed to the air, as the alcohol will evaporate and the salicylic-acid crystals will precipitate. The effect of the injection in chronic cases is noticed sooner when multiple localizations of the rheumatic process are present than when but one joint is affected. In the former, pain and stiffness usually improve after the first, in the latter, after the third injection. The addition of camphor (from 5 to 20 per cent.) has been found beneficial in stimulating the heart, especially in pericarditic and endocarditic cases. The weaker the heart, the more camphor may be given in the oil. The entire absence of all the toxic symptoms which are sometimes seen when salicylates are given by mouth, is said to be one of the pleasantest features of this method of treatment. The technic of injection is described fully.

9. **Artificial Muscles in Infantile Paralysis.**—Artificial rubber muscles are made to take the place of paralyzed or weak muscles by Meisenbach. For the construction of artificial muscles an ordinary rubber dam is used. The method is chiefly applicable to the ankle, the knee, the wrist and shoulder joints. By the use of artificial muscles the lost power may be supplied temporarily until the paralyzed muscles have recovered, and contractures of opposing groups may be prevented. The rubber over the affected muscles causes a local stimulation which is noted by active hyperemia and perspiration of the skin beneath the artificial muscle. Its use does not immobilize the joint, nor does it interfere with other prescribed treatment, namely, passive motion, massage, or electrical contractions. Its efficiency is continuous and its simplicity does not interfere with the clothing or the bathing. It is not intended to be used in advanced cases after the contractions have taken place.

Cleveland Medical Journal

February

11 Typhoid in Cleveland in Relation to Pollutions of Lake Erie. R. G. Perkins, Cleveland.
12 The Legal Duty of Physicians to Report Venereal Diseases. R. B. Newcomb, Cleveland.
13 The Reporting of Venereal Diseases. F. Oakley, Cleveland.
14 *Submucous Resection of the Nasal Septum, with a Description of the Author's Special Instruments. M. Metzenbaum, Cleveland.
15 Infantile Paralysis. H. O. Feiss, Cleveland.
16 Support of the Pelvic Viscera. E. O. Houck, Cleveland.
17 Management of Prostatic Hypertrophy. D. S. Gardner, Massillon, Ohio.

14. Also published in the *Laryngoscope*, February, 1911.

Bulletin of the Johns Hopkins Hospital, Baltimore

March

18 *Cirrhosis of the Liver. Five Different Types of Lesions from Which It May Arise. F. B. Mallory, Boston.
19 *Typhoid Spine; Report of Two Additional Cases with Bony Changes in the Vertebræ. T. McCrae, Baltimore.
20 *Erythema Multiforme Iris During the Course of Typhoid. H. P. Parker and H. H. Hazen, Washington, D. C.
21 *Acute Tuberculous Endaortitis. P. G. Woolley, Cincinnati.
22 *A Case of Extensive Thiersch Skin Graft. W. D. Gatch, Baltimore.
23 Two Cases of Congenital Hemolytic Jaundice with Splenomegaly. W. S. Thayer and R. S. Morris, Baltimore.

18. **Cirrhosis of the Liver.**—According to Mallory, at least five different types of lesions may terminate in cirrhosis (sclerosis) of the liver; one is acute, the other four more or less chronic in character. Toxic cirrhosis (following extensive central necrosis) demonstrates clearly the following three facts: 1. When all the liver cells of a lobule are destroyed the bile ducts grow out a certain distance toward the hepatic vein, but do not produce liver cells. 2. Liver cells regenerate only from liver cells, never from bile duct epithelium. 3. Fibroblasts (connective tissue cells) do not proliferate when liver cells alone are destroyed. The other four types of lesions terminating in cirrhosis show that fibroblasts multiply (regenerate) only when fibroblasts themselves have been injured or destroyed and thus lead to increase of the connective tissue. The so-called alcoholic type of cirrhosis is characterized by a peculiar hyaline degeneration of the cytoplasm of the liver cells preceding necrosis. In this same type of cirrhosis the contraction of the connective tissue frequently compresses groups of liver cells so that they may resemble bile ducts; in these compressed liver cells it is often possible to demonstrate large fat vacuoles or hyaline material due to degeneration in the cytoplasm, neither of which occurs in true bile duct epithelium. In toxic cirrhosis the connective tissue

thickens from contraction, but does not increase in amount because the fibroblasts have not been injured. In infectious cirrhosis the fibroblasts are destroyed along with the liver-cells; hence there is active regeneration and much production of connective tissue. In syphilitic infection of the liver the primary injury is done to fibroblasts; in consequence they proliferate (regenerate), often in excess; the contraction later of the collagen fibrils produced by them results in compression and more or less atrophy of the included liver cells. In pigment and alcoholic cirrhosis the proliferation of the fibroblasts is apparently due to injury caused mechanically by cells of exudate origin stretching the connective tissue; the reaction is similar to that produced in the lungs and peribronchial lymph nodes by endothelial leukocytes filled with carbon packing themselves in the finer lymph spaces.

19. **Typhoid Spine.**—These two cases are reported fully by McCrae. In the first case symptoms of typhoid spine were present in March, 1909, four months after the recovery from typhoid, and again in April. One point of interest is the occurrence of a relapse or second attack between five and six months after the original attack. Whether this should be termed a relapse or a second attack, McCrae found it difficult to decide, for there is no period which can be set as a dividing line between a relapse and a second attack. The case here reported is much like one previously described by McCrae, in which the original attack began on June 2, the patient being convalescent in March when the symptoms of typhoid spine appeared. He was admitted to the hospital on July 4 of the same year for the spinal symptoms, and a week later the second attack (or relapse) of typhoid began. In both of these cases there was an interval of months between the attacks, in which the symptoms of spondylitis appeared. One explanation of the cause of typhoid spondylitis is that there are local lesions in the bone in which typhoid bacilli are present. McCrae was tempted to suggest that this focus may have been the source of the second infection in these cases. However, our knowledge of what determines relapses is not very satisfactory and it would be easier to regard the second febrile attack in these two cases as a second attack rather than as a relapse. Besides, the retention of typhoid bacilli in the body after recovery from an attack of typhoid is so common (e. g. in the gall-bladder) that we should not attach too much importance to such a source of reinfection.

The second case is unusual in several particulars. In the first place it shows that typhoid spondylitis may occur without any severe pain. The symptom of pain has been regarded as the most essential one in "typhoid spine" and it is very evident in this case that but for the radiogram the diagnosis of spondylitis could not have been made. In this event the condition in the popliteal nerve would have been regarded as a posttyphoid neuritis and the causal influence of the local process in the spine would not have been recognized. The involvement of the nerve root on the opposite side to that on which the deposit of bone occurred is seen not infrequently in cases of spondylitis. McCrae thinks it may be regarded as an established fact that "typhoid spine" is a spondylitis or a perispondylitis with definite local changes which may lead to the formation of new bone and so result in more or less fixation of the spine. Judging from spondylitis generally, this permanent change is less likely to occur if the proper treatment is instituted early. Many cases of spondylitis clear without permanent changes.

20. **Erythema Multiforme Iris.**—The authors regard it as certain that the patient had typhoid on two occasions, the second attack occurring within a week after recovery from the first. During the height of the first attack he had the following symptoms characteristic of the erythemas: annular and macular skin lesions, and swelling and redness of the carpophalangeal joints. During the height of his relapse he suffered from edema of the upper lip (giant urticaria), erythema at points of pressure and hemoptysis. The fact that these lesions occurred only when the infection was young and active, the authors think would seem to indicate that the typhoid toxemia was responsible for them.

21. **Acute Tuberculous Endaortitis.**—The case reported by Woolley is the eleventh of acute tuberculous endaortitis. The aortic tubercles were the result not of extension, but of mestastasis from chronic lesions in the kidney. The general miliary tuberculosis that co-existed with the chronic tuberculosis, was not the result of dissemination of organisms from the aortic lesions. The bacilli in the aortic lesions showed bizarre forms with a tendency to branching.

22. **Extensive Thiersch Skin Graft.**—The case reported by Gatch has two points of chief interest: the large size of the area grafted, and the demonstration, by repeated trials, that only homografts would take in this patient. He was admitted to hospital on Nov. 21, 1909, for flame burns of the back and of the left forearm and hand which he had received fourteen hours before admission. The burn of the back was of the second degree, the others of the first. The area of this burn was 430 square inches. As the total area of the patient's body is about 2,800 square inches, the burn occupied between a sixth and a seventh of his entire cutaneous area. The patient recovered from the immediate effects of the injury rapidly and with little general systemic disturbance. While the sloughs were separating, the wounds were dressed with a single layer of dry gauze, which was left in place for periods of a week or more, and then changed after giving the patient a prolonged warm bath. Absorbent dressings, changed as often as necessary, were placed over the gauze. This dressing proved very clean and comfortable. In less than two weeks the burned surface was covered with healthy granulations. Now followed a long series of attempts to cover the large raw area with skin. None of the isografts applied to this patient lived, though applied under the same conditions as the homografts—practically all of which did take.

Bulletin of the American Academy of Medicine, Easton, Pa.

February

24 Educational Principles Involved in the Combined Course in Arts and Medicine. A. R. Hill, Columbia, Mo.
25 *Is the Profession Losing Its Grip? C. McIntire, Easton, Pa.
26 *Should Universities Grant the Degree of Ph.D. for Graduate Work in the Surgical Sciences? A. E. Hertzler, Rosedale, Kan.
27 *The Cooperation of School Health Departments with Other Health Agencies. E. B. Hoag, San Francisco.
28 *The School System and the Child. A. L. Benedict, Buffalo.

25, 26, 27 and 28. Abstracted in The Journal, July 16, 1910, p. 243.

Journal of the Tennessee State Medical Association, Nashville

February

29 Manic-Depressive Insanity. J. W. Stevens, Nashville.
30 Surgical Aspect of Calculus in the Kidney. J. A. Crisler, Memphis.
31 Maternal Impressions. H. E. Christenbery, Knoxville.

Journal of Biologic Chemistry, Baltimore

March

32 Formation of d-Gluconic Acid by Bacterium Savastanoi Smith. C. L. Alsberg, Washington, D. C.
33 Cholesterol Bodies in Soils: Phytosterol. O. Schreiner and E. C. Shorey, Washington, D. C.
34 Influence of Urethane in Production of Glycosuria in Rabbits After the Intravenous Injection of Adrenalin. F. P. Underhill, New Haven, Conn.
35 *Sources of Error in the Folin Method for the Estimation of Creatinin. A. E. Taylor, Berkeley, Cal.
36 *The Cutaneous Elimination of Nitrogen, Sulphur and Phosphorus. A. E. Taylor, Berkeley, Cal.
37 Estimation of Urea. A. E. Taylor, Berkeley, Cal.
38 Composition of Invertase. A. P. Mathews and T. H. Glenn, Chicago.
39 Method for Estimation of Reducing Sugars. S. R. Benedict, New York.
40 Study of Autolysis by Physicochemical Methods. R. Chiari, Vienna.
41 Nucleases. P. A. Levene and F. Medigreceanu, New York.

35. **Estimation of Creatinin.**—The greatest defect of this method, in Taylor's opinion, lies in the absence of a standard light. If the Folin method is to attain to that general usefulness and reliability to which its intrinsic qualities entitle it, he says that a light must be found, standard in quality and intensity. Under ideal conditions, the method will enable one to estimate 10 milligrams of creatinin with an accuracy of plus or minus 0.1 milligram. Under desirable conditions of concentration, urinary pigmentation and light, the plus or minus error in the estimation may be at least a milligram. Accurate estimations that can close agreements in the deter-

minations of creatinin are greatly to be desired because in this case we deal with a fundamental metabolism, the full understanding of which we are just beginning to appreciate.

36. **Cutaneous Elimination.**—Taylor presents the results of two metabolic experiments, in which, for the purpose of securing normal data, the attempt was made to secure quantitative determinations of the magnitudes of the cutaneous eliminations of nitrogen, sulphur and phosphorus. He found that in all probability the cutaneous elimination of nitrogen and sulphur is, under constant conditions of work, clothing and temperature, a constant for each individual, and in no wise dependent on the total metabolism of nitrogen and sulphur in the individual. The cutaneous elimination of phosphorus may be said to be *nil.*

Wisconsin Medical Journal, Milwaukee

February

42 Enlargements of the Liver. L. M. Warfield, Milwaukee.
43 Symptoms and Diagnosis of Extrauterine Pregnancy. V. F. Marshall, Appleton.
44 Extrauterine Pregnancy. W. E Fairfield, Green Bay.
45 Clinical Significance of High Blood-Pressure; Its Causes and Treatment. P. McKittrick, Eau Claire.
46 *The Nursing Mother from the Baby's Standpoint. A. W. Myers, Milwaukee.

46. Abstracted in The Journal, July 23, 1910, p. 344.

Archives of Pediatrics, New York

February

47 Effects of Vaccines. S. McC. Hamill, Philadelphia.
48 *Food Reactions in the Infant's Stomach Compared with Those in Vitro. D. M. Cowie and W. D. Lyon, Ann Arbor, Mich.
49 Methods of Examining Infants' Stools. Their Value. F. B. Talbot, Boston.
50 *A Method of Dealing with Ill-Nourished Infants. F. H. Glazebrook, Morristown, N. J.
51 Arthritis Deformans in Children. A Case of Still's Disease. E. C. Jones, Philadelphia.

48. Abstracted in The Journal, May 21, 1910, p. 1710.

50. An article by H. D. Chapin on the same subject appeared in the *Medical Record,* Feb. 18, 1911, and was abstracted in The Journal, March 4, 1911, p. 693.

Journal of the Minnesota State Medical Association, and the Northwestern Lancet, Minneapolis

March 1

52 Magnesium Sulphate in Tetanus. C. J. Holman, Mankato.
53 *Septic Thrombosis of the Sigmoid and Lateral Sinus, Complicating Case of Double Mastoiditis. F. C. Todd, Minneapolis.
54 Meckel's Diverticulum. D. Balfour, Rochester, Minn.
55 Medical Inspection in Schools. C. H. Keene, Minneapolis.

53. **Septic Thrombosis of the Sigmoid and Lateral Sinus.**—This is a case of double acute suppurative otitis media, complicated by mastoid abscess on one side, followed later by mastoid abscess and septic sinus thrombosis on the other side. Operations required: first on one mastoid, then on the other, with resection of the internal jugular and opening of the sinus. Complete recovery ensued.

Pennsylvania Medical Journal, Athens, Pa.

February

56 *Recent Progress in Medical Sociology. C. H. Miner, Wilkes-Barre.
57 *Relative Value of the Various Methods for the Determination of Functional Kidney Sufficiency. B. A. Thomas, Philadelphia.
58 Surgical Aspects of Infantile Spinal Paralysis. DeF. Willard, Philadelphia.
59 Temperature in Enlarged Tonsils and Adenoids. J. H. McCready, Pittsburg.
60 A Method of Removing the Faucial Tonsil, Using a Soft Silver-Wire Snare. A. A. MacLachlan, Pittsburg.
61 The Tonsil and the Singer. M. D. Ritchie, Pittsburg.
62 Indications for Removal of the Faucial Tonsils, and Dangers Connected with This Procedure. C. C. Sandels, Pittsburg.
63 *Treatment of Croupous Pneumonia. G. W. Norris, Philadelphia.
64 *Public and Private Aspects of the Pneumonia Question. W. C. White, Pittsburg.
65 A Case of Progressive Universal Pneumonia with Recovery, Presenting Some Very Unusual Features. W. H. Mercur, Pittsburg.
66 The Business Career of the Physician and Some Suggestions as to Safe Investments. L. Ott, Philadelphia.

56. Abstracted in The Journal, Oct. 29, 1910, p. 1580.

57. Abstracted in The Journal, Nov. 19, 1910, p. 1838.

63 and 64. Abstracted in The Journal, Nov. 5, 1910, p. 1671

Monthly Cyclopedia and Medical Bulletin, Philadelphia

February

67 Acromegaly: Pierre Marie's Disease. P. E. Launois and M. H. Cesbron, Paris.
68 *Should the [illegible] 'n Only Useful and Efficien Drugs? N [illegible]
69 *What Consti [illegible] and Shall the Preparation of a Usefu [illegible] One or Two? J. M. Ander Philadelphia.
70 *Revision of the United States Pharmacopeia. J. P. Reming ton, Philadelphia.
71 What Is the Attitude of the Medical Profession Toward Ost opathy? J. M. Taylor, Philadelphia.
72 Acne Rosacea and the Sebaceous Glands. J. C. Romme Philadelphia.
73 Anesthesia from the Anesthetist's Standpoint. H. W. Din man, Grand Rapids, Mich.
74 *Galactagogue Action of the Thymus, Corpus Luteum, and th Pineal Body. I. Ott and J. C. Scott, Philadelphia.

68 and 70. Abstracted in The Journal, May 28, 1910, 1812.

69. **What Constitutes a Useful Drug?**—According to Ander a valuable drug is: (1) One that has a definite physiologi action, which is applicable to the relief of a disordered physic logic process; (2) one that by repeated careful clinical obse vations has been found to be followed in the majority o instances by a definite clinical result, care being taken t exclude the influence of accessory circumstances; and (3) on that is used for the purpose of diluting a substance of to great concentration or making palatable an otherwise dis greeable remedy. In accordance with this definition, it ha seemed to Anders that the following, among other agent should be omitted from the official remedies to be found i the U. S. Pharmacopeia: Anthemis, berberis, calamus, cale dula, cassia fistula, chimaphila, chirata, chondrus, cypripediun eriodictyon, eugenol, eupatorium, fluidextractum berberidi fluidextractum calami, fluidextractum chimaphilæ, fluide tractum chiratæ, fluidextractum cypripedii, fluidextractu eriodictyi, fluidextractum eupatorii, fluidextractum frangul fluidextractum geranii, fluidextractum grindeliæ, fluidextractu lappæ, fluidextractum matico, fluidextractum mezerei, fluid extractum rubi, fluidextractum sabinæ, fluidextractum staph sagriæ, fluidextractum tritici, fluidextractum vibur opuli, frangula, geranium, gossypii cortex, gossypium pur ficatum, granatum, grindelia, hedeoma, lappa, manna, ma rubium, mastiche, matico, matricaria, mezereum, myristic oleum betulæ, oleum coriandri, oleum hedeomæ, oleum myris ticæ, pilulæ aloes et mastiches, pimenta, prunum, rubu sabina, safrolum, staphisafria, styrax, tinctura calendula triticum, ulmus, viburnum opulus, xanthoxylum and zea. O the other hand, among unofficial substances that he think might be advantageously added to the U. S. Pharmacopeia ar diacetylmorphin and silver vitellin.

74. **The Galactagogue Action of the Thymus.**—In experi ments on the goat with the glands containing internal secre tions, Ott and Scott found that the thymus and corpus luteu increased the quantity of milk fourfold in five minutes. Th ovary minus corpus luteum had no effect. Infundibulin i still the most powerful galactagogue, increasing the secretio of the milk one hundredfold. The amount of butter fat wa about the same in the augmented secretion by thymus, corpu luteum and infundibulin, though occasionally it was increase Intravenous injection of this body increases the secretion o milk eightfold. The pineal gland, as in previous experiment was rubbed with distilled water and filtered. Normal salin solution, according to Biedl, has been shown to increase th secretion of milk.

American Journal of Urology, New York

January

75 The Normal and Pathologic Posterior Urethra and Neck of th Bladder. L. Buerger, New York.
76 Technic of the Hyperemic Treatment of the Urethra by Ho Sounds. M. Porosz, Budapest, Hungary.
77 Roentgenologic Examinations of the Kidneys. A. Holdin Albany, N. Y.
78 Treatment of Acute Gonorrheal Epididymitis. J. C. Spence San Francisco.
79 Position Drainage in Suprapubic Prostatectomy. H. J Scherck, St. Louis.

Journal of the Missouri State Medical Association, St. Loui

February

80 Sixteen Syphilitic Patients Treated with Salvarsan. M. F Engman, W. H. Mook and J. W. Marchildon, St. Louis.
81 *Keeping Track of Sponges. T. F. Lockwood, Butler.
82 Tuberculin Therapy. G. C. Crandall, St. Louis.

83 A Plea for the Merit System in the Selection of Officers and Employees for the State Hospitals of Missouri. M. A. Bliss, St. Louis.
84 Surgical Treatment of Exophthalmic Goiter. W. Bartlett and W. P. Glennon, St. Louis.
85 Examination of Children. H. S. Marsh, Tipton.
86 Dedication of the Barnard Free Skin and Cancer Hospital, St. Louis. W. E. Fischel and C. H. Huttig, St. Louis.

81. **Keeping Track of Sponges.**—The plan outlined by Lockwood, briefly, is as follows: In making gauze sponges, have a numeral sewed in colored silk or stamped with indelible ink, of a harmless character, in one corner of each sponge. This renders the figures indestructible in sterilizing the sponge. Have three packages of sponges arranged as follows: first package must contain small sponges, fifteen in all, numerals running from 1 to 15. This completes the first series and the package is to be labeled A 15. The letter A designates the size of sponges contained in the package and the numeral the number it contains. The second series must be a size larger than the first, running from 1 to 10, labeled thus: B 10. Third series is still larger than B, running from 1 to 5, labeled C 5. This package should contain five large sponges or napkins used both for absorbing sponges and viscera towels in abdominal sections. Have sponges made uniformly, each package maintaining a regulation size. The letter on the package indicates the size of sponges contained therein.

When the operation is finished, whether minor or major, count out the sponges by actual notation and if any number be lacking to complete the restored series, never cease searching until the missing number is found. If one or more packages of sponges are used in an operation it is as easy to complete the count in several series as it is in a single series, except that it takes more time. If all the sponges are not used in any one package in a given operation, count out the unused sponges along with the rest to complete the full number in that particular series. While this may seem strenuous and an undue precaution imposed on the surgeon, yet Lockwood believes that such methods would completely avert the possibility of leaving sponges and other materials in the abdominal cavity. A similar numbering plan is suggested for instruments.

Journal of the Kansas Medical Society, Kansas City

February

87 Medical Inspection of School Children. H. N. Moses, Salina.
88 Cancer of the Uterus. O. D. Walker, Salina.
89 Diagnosis of Diseases of the Nervous System. O. S. Hubbard, Parsons.
90 Treatment of Submucous Fibroid. A.
91 W. H. Clark, Hoxie.
92 Drug Reform. L. E. Sayre, Lawrence.
93 A Case of Gangrenous Stomatitis Probably Caused by the Bacillus Necrophorus. F. Campbell and F. W. Shaw, Kansas City.

Archives of Internal Medicine, Chicago

February

94 *Diagnostic Value of the Orthodiagram in Heart Disease. J. G. Van Zwaluwenburg and L. F. Warren, Ann Arbor, Mich.
95 *Studies of Malaria in Panama. Treatment of Blackwater Fever. W. Brem, Cristobal, Canal Zone.
96 *Meralgia Paresthetica Due to Pressure of the Corset. J. L. Miller, Chicago.
97 *Energy Metabolism of Mother and Child Just Before and Just After Birth. T. M. Carpenter, Boston, and J. R. Murlin, New York.
98 *The Ameboid Activity of Megaloblasts. W. S. Thayer, Baltimore.
99 *Function of the Sino-Auricular Node. A. E. Cohn and L. Kessel, New York.
100 *Biology of and Immunity Against the Bacillus of Leprosy. C. W. Duval and F. B. Gurd, New Orleans.
101 A Blood Crisis Occurring with Primary Sarcoma of the Stomach. L. H. Briggs, Oakland, Cal.
102 *Technic of the Cammidge Reaction and of the Substance Giving Rise to the So-Called Typical Crystals. J. C. Roper and R. G. Stillman, New York.
103 Allergy. C. E. Von Pirquet, Baltimore.

94. **The Orthodiagram in Heart Disease.**—After having examined sixty patients, Van Zwaluwenberg and Warren believe that they are justified in the conclusion that an abnormal index is an early evidence of the increase in size of one or more chambers of the heart and may occur before such increase can be demonstrated by other means; that a decrease in the index results from left ventricular hypertrophy and dilatation, and an increase indicates a dilatation of the auricles with or without hypertrophy of the right ventricle. In combinations of these two antagonistic factors the index will depend on the predominance of the one or the other. The wide variation shown in valvular diseases should make the index valuable in the diagnosis of doubtful or combined lesions and they hope that the smaller fluctuations found associated with renal conditions may sometime be of diagnostic and prognostic value.

95. This paper was referred to in an editorial on blackwater fever in THE JOURNAL, Feb. 18, 1911, p. 514.

96. **Meralgia Paresthetica.**—In Miller's case, a circumscribed area of tenderness was located below and slightly outward from the anterior superior spine of the ilium; surrounding this was an ill-defined area of hyperesthesia; no analgesia, anesthesia or thermalgesia. In examining to determine if pressure of the clothing could be responsible for the trouble, it was noted that the lower edge of the corset hooked over the anterior superior spine, pressing into the thigh so that when standing erect it was with difficulty that the finger could be introduced between the corset and the thigh. Following instructions, the patient cut out a portion of the corset over this region. Within a few days relief was marked, and after the lapse of ten days the attacks of pain entirely disappeared, only slight numbness remaining. The woman returned to her work and reported three months later that, except for slight numbness, she considered herself cured. It was suggested that she purchase a new corset of the same style as that previously worn. After wearing this a few days, the pain again recurred, and the patient of her own accord cut out a piece of the corset as before, the pain promptly disappeared and now after the lapse of five months she complains only of slight numbness.

97. **Energy Metabolism of Mother and Child.**—In agreement with results previously obtained on the dog, Carpenter and Murlin find that the curve of total energy production of mother and child suffers no deflection at birth. The extra metabolism of the pregnant woman at the culmination of pregnancy, due in part to the accessory structure as well as to the fetus, is just equaled by the extra metabolism set up in the new-born child by exposure of its body to the outside world, and in the mother by activity of the mammary glands, etc. The energy metabolism, expressed per unit of weight, of the pregnant woman is about 7 per cent. less than that of the same woman newly delivered, and about 4 per cent. more than that of women in complete sexual rest. Expressed per unit of surface ($12.3\sqrt[3]{W^2}$) the energy metabolism of the pregnant woman is specifically higher than that of women in complete sexual rest, probably because of a higher metabolism in the uterus and because of more rapid conduction of heat through the abdominal wall. In the newly delivered and nursing mother the metabolism is likewise higher per unit of surface than that of either the pregnant or normal woman. This is probably due in part to the activity of the mammary glands and in part to the dynamic action of protein liberated by the involution processes. The energy metabolism of the new-born child expressed per unit of weight and found by subtracting the metabolism of mother alone from that of mother and child together, is two and a half times that of the mother. Expressed per unit of surface (same formula) the energy metabolism of the new-born child is not greater than that of the nursing mother, but is higher than that of a woman in complete sexual rest.

98. **Ameboid Activity of Megaloblasts.**—In the study of the blood in a case of Addisonian anemia of a chronic course, Thayer observed characteristic ameboid movements in a megaloblast. This observation is apparently the first of this nature. This megaloblast showed typical ameboid movements. Small round pseudopodia were projected into which the colored protoplasm flowed in the same manner seen with the ordinary intestinal amebas. Slight changes in shape occurred at times in the nucleus. The movements of the cell were marked, strikingly like those in leukocytes, and entirely unlike the gradual changes of shape sometimes seen in red blood-corpuscles in the fresh specimen. The pseudopodia that projected were exactly like those seen in the movements of a polymorphonuclear leukocyte; that is, on the edge of the

127. Also published in the *New York State Journal of Medicine*, January, 1911, and the *St. Paul Medical Journal*, January, 1911.

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2. Digitalis in Heart Disease.—Dropsy in cases of heart disease, in which the auricles are in a state of "fibrillation" and functionally inactive, Windle says, is present in a large proportion of cases of severe heart failure, whatever the nature of the underlying lesion may be. He has found the benefit derived from the administration of digitalis in cases of severe heart failure variable, even when classical indications for its use are present. In some patients improvement is rapid and maintained—the heart decreases in size, the edema quickly disappears; its power for good is limited—improvement occurs to a certain extent, and then comes to a standstill; again, particularly in cases of mitral stenosis with regular pulse, and those resulting from arterial disease, digitalis is often impotent or even harmful—the heart continues to dilate, and dropsy increases under its use. The mode of action of digitalis in fibrillation is as yet imperfectly understood. There are good reasons for the supposition that the drug acts by depressing the conductivity of the *a-v* bundle; its full effect is to block the passage of stimuli from auricle to ventricle; cut off from the influence of the auricle, the ventricle beats an independent rhythm. However this may be, the fact remains that the character of the heart's action under the full influence of digitalis in this condition is comparable in every way to that occurring in complete heart-block. The rhythm of the heart at times becomes regular, with a rate of 40 or thereabouts; further, a frequent effect of continued full doses is the occurrence of "coupled heart beats." The weaker beat of this coupled rhythm, which occurs with notable regularity, arises in response to a ventricular stimulus, and it is supposed that a condition of complete heart-block is present.

While the majority of cases of fibrillation respond in a marked manner to digitalis, it is found, as a matter of experience, that reaction varies under different circumstance of etiology and rate of pulse. Cases which respond most certainly and rapidly are those resulting from old rheumatic lesions, in which the rate of pulse is not greatly above normal, and symptoms of failure arise gradually. There is another type of case, also of rheumatic origin, in which fibrillation occurs suddenly, and heart failure soon becomes extreme; in these cases the pulse is usually rapid and reaction is uncertain. Fibrillation not uncommonly ensues in the course of arteriocardiosclerosis; generally the reaction is slight or absent, occasionally the heart slows to some extent, but improvement in the general symptoms is not proportionate. Exceptionally typical reaction occurs. Generally speaking, Windle says, improvement in cases of this kind is proportionate to the degree of slowing of the heart; and digitalis must be given in sufficient doses to reduce the rate at least to the normal, and in most cases considerably lower, to get the best results. On commencing treatment, 15 minims of the tincture should be given four times a day until the pulse slows to from fifty to sixty a minute, which it will do, as a rule, within a week. In most patients the improvement with this rate of pulse is maintained, when the same dose should be given three times a day and its effect watched. In others the case hangs fire; the drug should then be pushed until its full physiologic effect on the pulse is produced. The evidence of this is either a regular slowing of the heart to about forty beats a minute, or the occurrence of coupled heart beats. A pulse of fifty or over is always characteristically irregular; when the rate falls below fifty, it exceptionally becomes regular, the number of heart beats being the same as the pulse. More frequently, the full effect is shown by the occurrence of coupled beats; these are readily recognized on auscultation—two heart beats follow quickly on each other, succeeded by a long pause, the first beat is strong, the second short and feeble.

From a large number of observations, Windle has found that the total amount of tincture of digitalis required to produce runs of coupled beats or regular slowing is, on the average, 450 minims—that is, in about ten days with doses of 15 minims. Digitalis should be stopped when long runs of coupled heart beats or regular slowing occur; no further good can follow its continued use; the full effect is transient; within two or three days the pulse quickens and is again cell there appeared sometimes very small round buds, several at a time, which coalesce and form larger processes. The absolute homogeneity of the protoplasm did not allow Thayer to observe the rolling motion so clearly as in the case of *Amœba coli* or a leukocyte containing granules. At times, however, the movement was really rather active. Thayer concludes that in the early stage of development represented by the megaloblast, the red blood-corpuscle is, probably, a cell with powers of active progression.

99. **Function of the Sino-Auricular Node.**—The experiments reported by Cohn and Kessel were done on the excised hearts of small dogs, which had been perfused with Locke's solution. The plan differed from the other series of experiments, in that, first, an attempt was made to excise only the known node-bearing area, and, second, to show that even multiple incisions did not influence the rate (except to accelerate it), while a final incision which cut away the window that had been made on three sides, in ten of sixteen experiments did successfully cause the stoppage of the entire heart. In two the stoppage is not noted in the protocol, though the rates fell from 114 to 81.9 in one, and from 121.5 to 63 in another. In three others the node is probably not excised, and in a fourth final incision was not made. The experiments gave a fairly uniform result. The authors conclude that normal impulse formation takes place and normal rate is produced in the sino-auricular node.

100. **Bacillus of Leprosy.**—Pure cultures of *B. lepræ* have been obtained by Duval and Gurd directly from the infested leprous tissue on a variety of special media including tryptophan and glycerinated blood-agar without first growing them in the presence of amebas and their symbiotics. From two cases of leprosy they have cultivated in pure growth the specific organism directly from the tissues on Novy-McNeal rabbit blood-agar to which 1 per cent. glycerin had been added. As a rule, multiplication of *B. lepræ* on artificial medium takes place slowly, but once the growth has started it can be readily accelerated by frequent transplantation. They have succeeded in cultivating *B. lepræ* from the cutaneous nodules in eight cases of leprosy, two cases of nasal discharge, and from the experimental lesion in a number of monkeys and white and Japanese dancing mice. That the cultures are leprosy bacilli, and not some other acid-fast species, has been definitely proved by cultural and animal tests. Their experimental study on the virulence and viability of leprosy bacilli shows the necessity of early diagnosis and the need of strict segregation of certain types of the disease. The length of time *B. lepræ* will live and retain its infectiousness outside the body indicates plainly the risk to a community in allowing leper patients at large, in particular those who have open lesions. Especially dangerous from the standpoint of source of infection are the patients discharging the bacilli in the secretions from the nasal mucous membrane. These patients are a constant menace to those with whom they associate because of the possibility of indirect transmission of the bacilli that are unconsciously deposited on articles about the household where the leper resides. The mere fact that the organism lives for so long a time outside of the animal body may, the authors believe, explain why the disease continually reappears in households that have harbored a leper. The bacilli escaping from the infected individual, who for months may not be aware of his malady, are a constant menace to others of the household or to subsequent tenants, even though it be years after the direct source of infection has been removed.

The animal experiments do not tend to support the view that leprosy may reside for years in the human body before manifesting any outward signs of the disease. Direct inoculation from man to man may occur, but it is the exception. On the other hand, in the light of present knowledge the indirect evidence of transmission is by far the more significant. Their investigations also confirm the belief that the mucous membrane of the nasal pharynx is the port through which the bacilli gain entrance to the body, as well as the chief source from which infection spreads. The results of animal experimentations demonstrate the fact that direct communication of the disease may take place from individual to individual without the presence of the bed-bug or other parasites as intermediate hosts. In the examination of blood from patients suffering from leprosy the serum has been shown to contain specific antibodies of different kinds against certain constituents of the *B. lepræ*. In addition to the presence of specific bodies, they have demonstrated that complement is present in normal quantities. Agglutinins are present, though not in very large amounts. The opsonic content is probably affected at different stages of the disease, but with reference to the activity of this body their researches have so far not proved conclusive.

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with or without hypert alus in the Male Bladder. W. F. Haslam.

2. **Digitalis in Heart Disease.**—Dropsy in cases of heart disease, in which the auricles are in a state of "fibrillation" and functionally inactive, Windle says, is present in a large proportion of cases of severe heart failure, whatever the nature of the underlying lesion may be. He has found the benefit derived from the administration of digitalis in cases of severe heart failure variable, even when classical indications for its use are present. In some patients improvement is rapid and maintained—the heart decreases in size, the edema quickly disappears; its power for good is limited—improvement occurs to a certain extent, and then comes to a standstill; again, particularly in cases of mitral stenosis with regular pulse, and those resulting from arterial disease, digitalis is often impotent or even harmful—the heart continues to dilate, and dropsy increases under its use. The mode of action of digitalis in fibrillation is as yet imperfectly understood. There are good reasons for the supposition that the drug acts by depressing the conductivity of the *a-v* bundle; its full effect is to block the passage of stimuli from auricle to ventricle; cut off from the influence of the auricle, the ventricle beats an independent rhythm. However this may be, the fact remains that the character of the heart's action under the full influence of digitalis in this condition is comparable in every way to that occurring in complete heart-block. The rhythm of the heart at times becomes regular, with a rate of 40 or thereabouts; further, a frequent effect of continued full doses is the occurrence of "coupled heart beats." The weaker beat of this coupled rhythm, which occurs with notable regularity, arises in response to a ventricular stimulus, and it is supposed that a condition of complete heart-block is present.

While the majority of cases of fibrillation respond in a marked manner to digitalis, it is found, as a matter of experience, that reaction varies under different circumstance of etiology and rate of pulse. Cases which respond most certainly and rapidly are those resulting from old rheumatic lesions, in which the rate of pulse is not greatly above normal, and symptoms of failure arise gradually. There is another type of case, also of rheumatic origin, in which fibrillation occurs suddenly, and heart failure soon becomes extreme; in these cases the pulse is usually rapid and reaction is uncertain. Fibrillation not uncommonly ensues in the course of arteriocardiosclerosis; generally the reaction is slight or absent, occasionally the heart slows to some extent, but improvement in the general symptoms is not proportionate. Exceptionally typical reaction occurs. Generally speaking, Windle says, improvement in cases of this kind is proportionate to the degree of slowing of the heart; and digitalis must be given in sufficient doses to reduce the rate at least to the normal, and in most cases considerably lower, to get the best results. On commencing treatment, 15 minims of the tincture should be given four times a day until the pulse slows to from fifty to sixty a minute, which it will do, as a rule, within a week. In most patients the improvement with this rate of pulse is maintained, when the same dose should be given three times a day and its effect watched. In others the case hangs fire; the drug should then be pushed until its full physiologic effect on the pulse is produced. The evidence of this is either a regular slowing of the heart to about forty beats a minute, or the occurrence of coupled heart beats. A pulse of fifty or over is always characteristically irregular; when the rate falls below fifty, it exceptionally becomes regular, the number of heart beats being the same as the pulse. More frequently, the full effect is shown by the occurrence of coupled beats; these are readily recognized on auscultation—two heart beats follow quickly on each other, succeeded by a long pause, the first beat is strong, the second short and feeble.

From a large number of observations, Windle has found that the total amount of tincture of digitalis required to produce runs of coupled beats or regular slowing is, on the average, 450 minims—that is, in about ten days with doses of 15 minims. Digitalis should be stopped when long runs of coupled heart beats or regular slowing occur; *no further good* can follow its continued use; the full effect *is transient;* within two or three days the pulse quickens and is again characteristically irregular. The drug should now be given again in increasing doses of from 10 to 15 minims, three times a day, until the pulse slows to a rate approximating that at which the double beats previously occurred; it is with this rate of pulse that the patient will generally be at his best. The guide for dosage during treatment is the effect on the heart, and this can be determined by auscultation, the rate and rhythm of the beats furnishing the necessary indications.

3. **Death from Postanesthetic Acid Intoxication.**—Since the occurrence of these cases reported by Brown, the urine of every child in the *Liverpool Royal Infirmary* is tested for acetone, on admission; if this be present the operation is delayed, if possible, till the acetone has been eliminated, and treatment is continued after the operation. Inasmuch as an individual deprived of carbohydrates excretes acetone and diacetic acid, but the exhibition of carbohydrates rapidly causes the disappearance of these substances, glucose is employed as a prophylactic. All patients admitted to surgical wards for operation (usually admitted 2:30 p. m.) receive (1) glucose 1 dram, at 4, 6 and 8 o'clock on the day of admission and at 4, 6 and 8 o'clock on the following morning. If the child is 8 years or older, 2 drams are given. (2) Sodium bicarbonate, in the strength of 1 dram to 4 ounces of water, is given instead of plain "wash-out" before operation. If acetone is present in the urine on admission: (1) glucose is continued at two-hourly intervals during the day-time; (2) the sodium bicarbonate is given every two hours during the day and every four hours at night. Liquid glucose is more satisfactory than solid, and children take it as well as a sweet. Sodium bicarbonate solution is frequently taken by children only after a struggle. Since the initiation of this measure no serious symptoms have developed in any patient; but the treatment has not been in force long enough to give a reliable comparison, though the post-anesthetic vomiting has been less.

5. **Roentgen Rays in Malaria.**—The effect of heat applied over the splenic area in relieving the pain attendant on an attack of malarial fever gave Skinner and Carson the idea that the Roentgen rays also might have a therapeutic action as the immediate effect of their similar application. That these conjectures were not without base is evidenced by the eleven cases reported. The application of Roentgen rays in cases of malarial fever relieves splenic pain and reduces recent engorgement; the temperature falls and does not usually rise again, and recovery is not attended by the anemia usually present in patients treated with quinin. The authors have not had to fall back on quinin in patients treated by the Roentgen rays, while they have had patients who resisted quinin and yielded promptly to the rays (quinin being discontinued).

8. Also published in the *Lancet*, Feb. 25, 1911.

Lancet, London

February 25

9 *[illegible] Diagnosis, Especially of Tuberculosis Emery.
10 *[illegible] n the Male Bladder. W. F. Haslam.
11 *[illegible] D. B. Lees.
12 [illegible] M. Yearsley.
13 Examination, with Negative Results, of the Central Nervous System in a Case of Cured Human Trypanosomiasis. F. W. Mott.
14 Salvarsan in Syphilis. C. F. Marshall.
15 The Physiology and Pathology of the Assimilation of Albumin. S. A. Arany.
16 *A Case of So-Called Insusceptibility to Vaccination. J. D. Staple.

9. **Immunity Reaction in Diagnosis.**—Quantitative estimations of the strength of a serum in antibodies, as estimated by the Bordet-Gengou reaction, are not, in Emery's opinion, applicable in all cases, at least so far as tuberculosis is concerned. What it may be expected to give is a measure of the amount of tuberculous substances in the serum, which in association with the clinical facts, may have great value in diagnosis, and perhaps also in prognosis and treatment. He examined thirty-four individuals with diseases other than tuberculosis and healthy persons. The average complement absorption time was 18.1 minutes, the maximum 35 minutes, and the minimum 2½; this shortened time was present in but three persons who were not thought to be tuberculous. In tuberculous individuals the most usual thing is to find the absorption time greatly reduced. In Emery's cases the average time was 7.4 minutes, and times of less than 2½ minutes were found in 25 out of 56 serums examined, or 44.6 per cent. Thus, he says, if we regard an absorption period of 2½ minutes as affording the criterion for the presence or absence of the test, we find it in 44.6 per cent. of the tuberculous and 8.8 per cent. of non-tuberculous individuals. If we take 5 minutes, we find it in 66 and 11.7 per cent., respectively. Further, tuberculous persons do not always give a shortened absorption period. Very short absorption times are usually encountered in chronic cases in which the patients are doing well, and in quite general terms are, in definite tuberculosis, longer in cases in which the patients are progressing rapidly. The process, therefore, has some value in giving a clue to the prognosis. But it is very far from being absolute. Thus it appears that a prolonged absorption time may be due (1) to the presence of antibodies in minute amounts only (this occurs in health or in tuberculosis, and as a rough general rule indicates a progressive disease); and (2) to the presence of this inhibiting substance (this does not necessarily indicate a bad prognosis). Judging from the few cases in which Emery has been able to put the matter to the test, he concludes that a prolonged absorption time in a case of undoubted tuberculosis indicates a high degree of susceptibility to tuberculin, whether applied to the skin or injected; but a patient with a shortened time will also react.

10. Also published in the *British Medical Journal*, Feb. 25, 1911.

11. **Treatment of Pneumonia.**—Lees presents a review of well-known facts and does not offer anything new.

16. **So-Called Insusceptibility to Vaccination.**—The "one-mark vaccination" is strongly condemned by *Staple. It is* perfectly obvious, he says, that if a child is vaccinated in only one place there is less likelihood of the operation being successful than if it were performed in the orthodox number of places. Staple regrets that when a certificate of insusceptibility is filled up the practitioner is not required to certify that the child has been unsuccessfully vaccinated in three or four marks on three separate occasions.

Journal of Obstetrics and Gynecology of the British Empire, London

February

17 Indications for, and Technic of, Cesarean Section and Its Alternatives, in Women with Contracted Pelves, Who Have Been Long in Labor and Exposed to Septic Infection. A. Routh.
18 *An Experimental Study of the Anaphylactic Theory of the Toxemia of Pregnancy. R. W. Johnstone.
19 Acute Torsion of Normal Ovaries and Fallopian Tubes with Hematosalpinx. J. N. Stark.
20 Three Cases of Cesarean Section in Non-Contracted Pelvis. H. Simson.
21 Keratinizing Adeno-Carcinoma of the Uterus. Miss Ivens.
22 Adenomyoma in a Tuberculous Fallopian Tube. Miss Ivens.
23 Chorio-Epithelioma of the Uterus Preceded by Vesicular Mole and Accompanied by Unusual Nervous Symptoms. Miss Ivens.

18. **Placental Anaphylaxis.**—The idea underlying Johnstone's theory of placental anaphylaxis was that some alien protein might pass from the fetus or placenta into the maternal circulation, and supersensitize the mother; and that a *subsequent transference of the same substance after a suitable* interval might account for the onset of convulsions and other symptoms. His experiments were confined to the use of the placenta only. They fall into five groups. In the first group he used an extract of placenta from an eclamptic patient. In the second group he carried out similar experiments in twelve female rabbits with the juice of normal healthy placenta. In the third group, the conditions were made as realistic as possible, pregnant animals being injected with the juice of placenta from another of the same species. In the next two groups Johnstone used powdered placenta suspended in normal saline solution. Anaphylactic symptoms were obtained by the use of normal placenta juice in eight out of twelve rabbits. This indicates that human placenta juice contains

some complex protein body which is capable of acting as a toxin for other animals. No results followed the use of eclamptic placenta juice. So far as it goes, this may be taken to lend support to the view that the toxic element had passed out of the placenta into the patient's body. No result followed the use of extracts of animals of the same species. Finally, no results followed the use of powder of placenta, either human or of animals of the same species.

The question remains: Were such anaphylactic symptoms as were obtained, due to a placental toxin, or to the small quantity of blood-serum inevitably present? It is impossible to wash all the blood out of a placenta by any method yet devised—either the simple one employed in Johnstone's experiments, viz., washing the minced placenta in a muslin bag under running water, or the more elaborate, but not more effectual one, of injecting water into the umbilical vein immediately after birth. The results of these experiments, particularly the failure to confirm Anderson and Rosenau's results with homologous placental extract, in Johnstone's opinion appears to support the view that there is no evidence of anything of the nature of anaphylaxis, so far as we at present understand that subject, in the commoner manifestations of the toxemia of pregnancy.

Journal of Tropical Medicine and Hygiene, London

February 15

24 A Case of Sleeping Sickness Occurring in Northern Nigeria. D. Alexander.
25 Betanaphthol and Thymol as Anthelmintics. B. Nicol.

Clinical Journal, London

February 22

26 Common Gynecologic Affections. T. G. Stevens.
27 *Absence of Abdominal Respiratory Movement as an Indication of Pericarditis. W. E. Wynter.

27. **Absence of Abdominal Respiratory Movement an Indication of Pericarditis.**—The sign suggested by Wynter is inhibition of the action of the diaphragm, indicated by suppression of normal abdominal respiratory movement. In acute pericarditis, on the other hand, the cessation of phrenic action is bilateral and, consequently, absence of abdominal respiratory movement is as obvious as in abdominal disorders, though other abdominal manifestations, such as muscular rigidity and general tenderness, are lacking. The author says that when the front of the body is fully exposed, the stillness of the abdomen is very striking, suggesting peritonitis, unless, as sometimes happens, there is inspiratory recession, which might mislead unless the want of correspondence with the movement of the upper chest is noticed. The inertness of the diaphragm is not merely inferred, but by Roentgen-ray screen examination can be actually observed, the midriff mounting high into the thorax and exhibiting no contraction; in some instances there is an actual rising of a quarter of an inch with each inspiration. In one case the contents of the upper abdomen, such as the kidneys and opaque masses in the intestines, could be seen to participate in this upward respiratory movement. Concomitant and consequent phenomena are: a tendency to dilatation of the hollow abdominal organs, especially the stomach; collapse and loss of function in the lower lobes of the lung; slight upward displacement of the heart, and of the organs beneath and in contact with the diaphragm. Loss of abdominal movement, as a sign of pericarditis, is the more valuable in that it may precede and outlast the other indications and so afford grounds for anticipatory or retrospective diagnosis. The condition affords a reasonable explanation of the cyanosis and dyspnea so usual in the complaint, and of the upright position so commonly assumed by the patient, the former expressing the effect of respiration restricted to the function of the upper lobes of the lungs, and the latter pointing to an unconscious effort on the part of the patient to utilize the weight of the abdominal viscera to depress the passive diaphragm and enlarge the thoracic area. Restriction of abdominal movement is apparently more marked in fibrinous than in effusive pericarditis, movements being more productive of local irritation in the former than in the latter condition, as is the case in other serous sacs, such as the pleura and peritoneum.

Medical Press and Circular, London

February 22

28 Empyema. T. R. Whipham.
29 Salvarsan in Syphilis. W. D. O'Kelley.
30 *Surgical Aspect of Glycosuria and Diabetic Gangrene. C. A. Morton.
31 *Treatment of Heroinomania and Morphinomania. P. Duhem.
32 Two Cases of Abscess of the Liver Complicating Appendicitis. J. J. Clarke.

30. **Surgical Aspect of Glycosuria.**—Amputation for diabetic gangrene is favored by Morton, but he says that we ought to consider carefully in what cases of diabetic gangrene amputation is called for. If the area is small, and the gangrene is not spreading, he sees no reason why amputation should be done, unless the process of separation of the dead tissue is so tedious that the patient desires to have an operation which may hasten matters. If so, a thorough removal of sloughs may suffice; but if the gangrene is spreading, or is associated with great pain in the living margin of tissue, or there is pyrexia due to septic absorption from the gangrenous area, then the question of amputation must be considered seriously. If the most scrupulous care is taken as to antiseptic details, and spinal anesthesia is used, the risk of amputation should not be great. Morton reports three cases:

CASE 1.—Dry gangrene of the great toe, due to atheroma of the arteries associated with diabetes. S. C., aged 66, was admitted to the General Hospital in October, 1907, with dry gangrene of the great toe. The necrotic area in part separated, and was in part removed, but the gangrene spread to the next toes, and the neighboring part of the foot. No pulsation could be felt in either the posterior tibial or the dorsalis pedis artery in either foot, and the radials were thickened. The popliteal arteries could be felt pulsating on both sides. Glycosuria persisted during the six months the man was in the hospital, but considerably decreased on antidiabetic diet. Amputation was performed through the knee joint under spinal anesthesia which acted well. The popliteal artery was very rigid and thick, and the arteries of the amputated leg were found to be extensively affected by atheroma. The lumen of the posterior tibial was almost completely blocked, and that of the anterior was very small. Primary union occurred except at one minute point and the patient was in no way the worse for the operation.

CASE 2.—Moist gangrene of all the toes, of an inch of the foot close to them, and a large patch of gangrene extended down the sole almost to the heel. Amputation was performed successfully through the knee-joint under spinal anesthesia.

CASE 3.—Spreading moist gangrene of foot associated with perforating ulcers. Amputation through knee-joint was successful.

31. **Heroinomania and Morphinomania.**—Instead of attempting to wean the patient in five or six days, Duhem devotes two or three weeks or more to the suppression of injections. He encourages the elimination of toxic products, the disengorgement of the glandular canals, and the renovation of the epithelial tissues by all possible means. He makes use of any symptomatic treatment for which there may be an indication.

Annales de Gynécologie et d'Obstétrique, Paris

February, XXXVIII, pp. 65-128

33 Retroperitoneal Cysts in or Around the Ovary. Three Cases. J. Vanverts and H. Paucot.
34 *Fibromas Complicating Pregnancy. J. Mouchotte.
35 Experimental Research on Starch-Producing and Starch-Digesting Activity of the Placenta. (Sur l'activité amylogénétique et amylolytique du placenta.) S. Delle Chiage.
36 Metabolism During Pregnancy. (Recherches sur les échanges organiques chez les femmes enceintes.) C. J. C. van Hoogenhuyze and A. Ten Doeschate. Commenced in No. 1.

34. **Fibromas Complicating Pregnancy.**—Recent discussions of this subject in French medical societies have shown that the pregnancy generally runs a normal course to term, notwithstanding the presence of the fibroma. Only when serious disturbances are threatening is it necessary to interfere. At the same time it is conceded that the disturbances must not be allowed to reach such a stage that operative measures are liable to come too late. Mouchotte's patient was pregnant for the first time at the age of 38. The uterus was found studded with fibromas. A large one was attached to the uterus only by a pedicle, seeming to belong to some other

organ, especially as a loop of intestine had become interposed between the uterus and the body of the big fibroma. The serious symptoms seemed to be characteristic of intermittent hydronephrosis, owing to the compression of the left ureter, sigmoid flexure and the iliac blood-vessels which complicated the picture. When the abdomen was opened, the general fibromyomatous degeneration of the uterus and the slight possibility of effectual hemostasis, induced Mouchotte to remove the entire uterus as the only safe procedure. He emphasizes in conclusion that the outcome with fibroma of the pregnant uterus depends less on the size of the tumor than on its location, the accidents being more or less serious according to the organs compressed by it.

Annales des Maladies des Org. Génito-Urinaires, Paris

February 1, XXIX, No. 3, pp. 193-288

37 *Operative Treatment of Calculus in the Ureter. Fabricannte.
38 Endoscopic Discovery of Deformity in the Urethra. J. Chadzynski.
39 Catheters Knotted in the Urethra or Bladder. (Bougies nouées dans l'urètre ou dans la vessie.) O. Pasteau.
40 *Supernumerary Kidney. (Rein surnuméraire constaté pendant la vie.) A. Isaya.

37. **Calculus in Ureter.**—Fabricannte advocates, as giving the best access, a transverse incision around the iliac crest, parallel to Poupart's ligament. In very favorable cases in women, the stone might be removed through the vagina.

40. **Supernumerary Kidney.**—Isaya's patient was a woman of 27 with recurring attacks of pain since childhood. A tumor was discovered which proved to be a third kidney. But all three kidneys were apparently normal, and the pains were remedied by fixation of the transverse colon which was found sagging. All symptoms ceased after the operation. Isaya reviews the few similar cases of supernumerary kidneys on record.

Archives Générales de Chirurgie, Paris

December, IV, No. 12, pp. 1211-1320

41 *Ambulatory Splint for Fractured Leg. (Traitement des fractures de jambe par la "marche directe.") G. Worms and P. Hamand.
42 Ulceration of Jejunum After Gastro-Enterostomy. P. D. Wilkie.
43 *Chloroform Accidents. E. Vidal. Commenced in No. 11.
44 Large Fibroma of Upper Jaw. P. Mauclaire.

January, V, No. 1, pp. 1-116

45 *Inversion of the Vagina Following Hysterectomy. P. Guibal.
46 Bone and Joint Complications of Malta Fever. D. Zezas.
47 *Drainage of Ascites into Subcutaneous Cellular Tissues. P. Mauclaire.

41. **Ambulatory Treatment of Fractured Leg.**—Worms and Hamand have applied Delbet's walking splints in a number of cases of oblique fracture of the leg or Dupuytren's fracture, and describe here the good results in eight typical cases. They illustrate the technic; the principle is to support the leg by plaster splints from a point above the fracture close to the condyle above, and below just above the bulge of the malleoli. These points sustain the two rigid splints which support the leg in the place of the fractured bones, the weight of the body thus being transmitted from the upper end to the lower end of the leg, leaving the focus of the fracture in repose. All that is necessary is a splint of plaster on each side of the leg, with a horizontal plaster bandage wound around just below the knee and another at the ankle including the heel. The simplicity of the technic and the excellent outcome are extolled. They apply the apparatus immediately after the accident, especially with simple fracture permitting easy and rapid reduction. If the limb is already much swollen, it is better to wait and use other means for immobilization until the effusion has been absorbed. Even compound fractures can be treated by the ambulatory dressing, they assert, if asepsis can be assured and the patient is not allowed to walk on the limb except with great caution until after the soft parts have healed.

43. **Treatment of Chloroform Accidents.**—Vidal concludes from study of the literature and his own experience that the main point in treating chloroform accidents is to supply the heart with a non-toxic fluid. He thinks that artificial respiration will generally answer the purpose when the trouble is merely arrest of breathing. Oxygen is required only exceptionally, but if the heart has stopped beating he advises (1) exposing at once a vein close to the heart and removing 300 gm. of blood by pressure on the chest; the vessel is then ligated; (2) keeping up artificial respiration constantly; (3) then injecting slowly, toward the heart, through a needle inserted in an artery on the right side, from 80 to 100 gm. of tepid Locke's solution; (4) then waiting two minutes before doing anything else; (5) then squeezing the heart through the diaphragm, superficially and slowly, not over thirty times a minute, keeping this up for one minute then (6) waiting for two minutes; (7) giving another injection of Locke's solution (only 60 gm.) and resuming massage after the fluid has been in the heart for two minutes. This outline of treatment is the only logical method, he thinks, and the success that has been obtained with other methods, he is convinced, was due to the fact that unconsciously some of these principles were followed. His formula for Locke's solution is sodium chlorid, 9 gm.; calcium chlorid, 0.2 gm.; potassium chlorid, 0.2 gm.; sodium carbonate, 0.2 gm.; glucose, 1 gm., and distilled water, 1,000 c.c. The benefit from this intracardiac lavage has been instructively shown in some recent communications, he states, that of Depage reporting the instantaneous revival of the heart, which forty-five minutes of massage had been unable to accomplish. He warns against too hasty massage, as that would force the non-toxic fluid out of the heart. The aim is to save for the heart the whole *benefit of its first effort.*

45. **Prolapse of the Vagina.**—Guibal discusses means to prevent and remedy inversion of the vagina, especially after hysterectomy, giving the details of six cases on record with one from his own experience. In his case he was obliged to excise part of the vagina and restore the perineum which had been lacerated at the last childbirth, twenty-five years before. Three months after vaginal hysterectomy, the vagina became completely inverted. He gives the details of the complicated operation which restored approximately normal conditions.

47. **Dangers of Drainage of Ascites into the Subcutaneous Cellular Tissue.**—Mauclaire has treated six patients by inserting a T drain, the vertical branch projecting into the pelvis while the horizontal branches extended in the subcutaneous tissue. This provided a means for the ascitic fluid to escape into the cellular tissue, but the outcome was not good. Four of the patients rapidly grew weaker and soon succumbed. Another seemed to bear the drainage without disturbances but succumbed to progressive cachexia. The sixth patient recovered; the ascites in this case was tuberculous and the laparotomy alone might have sufficed for the cure. He wore the drain for three months without inconvenience and the ascites did not recur. It is possible that in the four fatal cases the ascitic fluid accompanying the cirrhosis or cancer was so toxic that it injured the patient when reabsorbed. Possibly the outcome might have been better if a smaller drain had been used instead of the No. 15 or 16 Charrière that had been selected. Mauclaire thinks that the possible toxicity of the ascitic fluid and the danger of grafting tuberculosis or cancer should compel caution in these efforts for autodrainage of ascites.

Archives des Maladies du Cœur, Etc., Paris

February, IV, No. 2, pp. 65-144

48 *Precordial Dulness in Heart Disease in Children. (Matité précordiale dans les cardiopathies infantiles.) P. Nobécourt and R. Voisin.
49 Purpuric Diathesis Revealed by Casual Trauma. (Purpura localisé de l'avant-bras.) H. Gougerot and H. Salin.
50 Gonococcus Endocarditis. (Endocardite infectieuse des sigmoides aortiques avec anévrysme perforant d'un sinus de Valsalva au cours d'un rhumatisme blennorragique. Ictère terminal.) F. Mouisset and J. Chalier.

48. **Dulness Over the Heart in Cardiac Disease in Children.**—Nobécourt and Voisin compare the percussion findings in thirty-six children with various cardiac defects; in two the trouble was congenital, in two others of tuberculous origin. In the latter cases the heart area was little if any increased, and soon subsided to less than the normal area. Necropsy disclosed the heart much atrophied. In twelve cases the trouble was an acute cardiopathy, and in the others a chronic condition. If the apex is found at the same point on repeated examinations, while the general area has diminished, adherence to the chest wall may be assumed. In the course of an acute heart affection, an increase in the size of the precordial dulness may indicate restriction of fluids, venesection,

digitalis or epinephrin. Strict repose should be enforced during convalescence as long as the heart area is unduly large. Reduction in the area of the dulness is one of the last signs of improvement under heart tonics. It is not necessary, they add, to percuss the entire heart; determination of the apex and of the point of intersection of the upper margin of the liver with the right margin of the cardiac dulness is all that is generally necessary. These points can be readily percussed and the variations in the horizontal diameter instructively determined.

Journal de Chirurgie, Paris

January, VI, No. 1, pp. 1-136

51 *Cheiloplasty. H. Morestin.

51. **Cheiloplasty.**—Morestin gives an illustrated description of a number of typical cases in which all or part of the upper and lower lip was restored, with a number of technical points learned from his experience.

Presse Médicale, Paris

February 11, XIX, No. 12, pp. 105-112

52 An Auto-Observation of an Auto-Operation for Inguinal Hernia Under Jonnesco's Spinal Anesthesia. A. Fzaicou.
53 Subacute Ependymitis with Hydrocephalus and Lesions Suggesting Syringomyelia. H. Claude, C. Vincent and J. Lévy-Valensi.

February 15, No. 13, pp. 113-120

54 *Value of Tincture of Iodin for Antisepsis. P. Reclus.

54. **Tincture of Iodin and Antisepsis.**—Reclus congratulates the profession on the present vogue of tincture of iodin which he regards as the most easily managed of all antiseptics, the least dangerous and the most powerful. He cites a number of instances from his own experience to sustain this, calling attention in particular to the ideal functional outcome in injuries of the hands treated with the tincture of iodin. The skin heals supple, the joints are not at all stiff and the skin grows out to cover the bare bone when conditions permit it in the slightest. The outcome is almost equally good when the iodin is not applied until after signs of local inflammation and even of septicemia have developed. In one case the hand had been crushed by a keg holding 500 liters and two days had elapsed, the tissues putrefying, and signs of general infection were already installed before the tincture of iodin was applied, and yet functioning was restored, except for disarticulation of the forefinger, in a manner little short of miraculous. In another case, he says, he operated only by a sort of professional reflex action as the patient seemed moribund from fulminating gangrene from a scrotal tumor resulting from puncture of a hematocele by unskilled hands. Reclus made the incision with the actual cautery which lighted the gas in the focus; it burned with a blue light. He then cleared out the clots and gangrenous tissues and painted the walls of the enormous cavity with tincture of iodin. It was a surprise to find the man alive the next day; by the end of forty days the immense cavity had nearly healed and the man is now completely restored to health.

Revue de Chirurgie, Paris

February 10, XXXI, No. 2, pp. 145-280

55 *Operative Treatment of Typhoid Angiocholecystitis. E. Quénu.
56 Treatment of Skull Wounds on the Battle Field. (Du traitement des blessures du crâne dans les formations de l'avant.) Weitzel.
57 *Ultimate Outcome of Dislocation of the Shoulder. (Pronostic éloigné des luxations de l'épaule.) L. Imbert and G. Dugas.
58 Treatment of Arterial and Arteriovenous Hematomas. C. Monod and J. Vanverts. Commenced in No. 1.

55. **Operative Treatment of Typhoid Gall-Bladder Disease.**—Quénu published two years ago a work on this subject, reviewing forty-five operations that had been done on the gall-bladder during typhoid fever or convalescence therefrom. He here completes the list to date and tabulates the details of the sixty-seven operations. Only one of the patients recovered of the twelve treated by an incomplete operation, while thirty-three recovered of the forty treated by cholecystostomy and all but two of the ten with cholecystectomy. [The only cases cited from The Journal are those of Lavinder and Prince.] The general conclusion from this material is that cholecystostomy alone answers in nearly every case. Only when the gall-bladder tissue is too friable, or when there is perforation or ulceration, is its removal indicated.

57. **End-Results of Dislocation of the Shoulder.**—Imbert and Dugas have been investigating the present condition of fifteen patients, the only ones they have been able to trace to date out of eighty patients treated for dislocation of the shoulder in the last few years. Only four of the fifteen were found in a satisfactory condition—all the others complained of more or less disturbance in the use of the arm. The patients were between 30 and 70, but the four with a satisfactory outcome were between 34 and 58. Delay in reduction of the dislocation does not seem to be the decisive factor for the outcome; in six of the cases with the poorest ultimate outcome reduction had been done in one hour, the same day or the second day. The reduced dislocation had been given careful treatment in all cases, in one for five months, in others for four months, etc., by experts in electric and mechanical therapeutic measures. In all the severer cases there had been periarthritis and the persisting pain and atrophy of the muscles indicate participation of the nerve terminals in the trouble. From the standpoint of industrial insurance it is important to bear in mind that even under the best conditions functional disturbance and pain may persist for several months or may become permanent so that it is impossible to judge definitely of the case under several months. Persisting incapacity is generally due to the periarthritis, and only exceptionally to traumatic paralysis of the brachial plexus.

Revue de Gynécologie, Paris

February, XVI, No. 2, pp. 97-208

59 *Metrorrhagia in Young Girls. (Etude histologique de la muqueuse utérine dans une forme particulière de metrorragie observée chez des jeunes filles.) A. Siredey and H. Lemaire.
60 Cysts in the Kidney and Cystic Disease of the Kidney. (Notes sur les kystes rénaux et péri-rénaux.) E. Papin and P. J. Christian.

59. **Metrorrhagia in Young Girls.**—Siredey and Lemaire report four cases of rebellious metrorrhagia in girls from 14 to 20 in which no benefit followed the usual measures and a cure was obtained only by curetting the uterus. The scrapings showed similar lesions in each—a tendency to adenomatous production, of obscure origin. The hemorrhages had kept up for several months but there were no other symptoms beyond the anemia.

Revue de Médecine, Paris

February, XXXI, No. 2, pp. 81-176

61 *Pathogenesis and Treatment of Beriberi. G. Barbézieux.
62 Part Played by the Nitrogen of Ammonia in Production of Urea. (Recherches sur la contribution de l'azote ammoniacal à la formation de l'urée dans l'organisme.) H. Labbé.
63 *Test Diet in Estimating Digestion. (Sur l'épreuve de la digestion par le régime.) J. Cecikas.

61. **Beriberi.**—Barbézieux writes from Indo-China to present arguments in favor of the assumption that beriberi is not a distinct morbid entity but a syndrome for which disturbances in the general nutrition are responsible. It develops only in the predisposed, that is, in those in whom the nervous system has been modified by some inherited diathesis. Acute rheumatism, malaria and dysentery may prove the occasional cause, equally with poverty, neurasthenia, overwork, grief, insufficient food or puerperal or alimentary intoxication. The sodium salts and especially sodium salicylate have not only a symptomatic efficacy but seem to arrest the degeneracy of the central or peripheral nerve tissue and to favor the regeneration of the nerve cells. The sodium salts, he says, seem to facilitate the exchanges and the interaction of the intracellular metallic ions. His experience has confirmed the preponderant rôle of sodium salicylate in the treatment and cure of beriberi. In a typical case reported, the beriberi followed acute rheumatism and sodium salicylate was given by subcutaneous injection for the rheumatism and the beriberi subsided with it. Since then he has been applying the method systematically in the clinic. The neuro-arthritic diathesis seems to be the most frequent and important factor, and this he has found extremely common in tropical countries.

63. **The Test Diet in Estimating Digestion.**—Cecikas has studied on a number of volunteers and patients the findings with Schmidt's test diet. His experience shows the value of the method in organic affections of the digestive tract, but his conclusions differ from Schmidt's in regard to the interpretation of the findings with functional disturbances.

Semaine Médicale, Paris

February 22, XXXI, No. 8, pp. 85-96

64 *Auscultation Sign of Glandular Disease in the Chest. (Le signe de D'Espine dans le diagnostic de l'adénopathie trachéobronchique de l'adulte.) M. Roch.

64. **Vertebral Auscultation in Diagnosis of Bronchial Adenopathy.**—The Journal, March 9, 1907, page 909, described D'Espine's sign of disease of the glands in the chest in children, namely, the peculiar resonance found in auscultation along the spine as the child speaks, or, preferably, whispers. He makes the test by having the child say the French words for 333, *trois cent trente- trois.* Roch has been studying this sign in adults, and states that it is proving equally instructive at all ages. He found it pronounced in thirty patients, mostly those with pulmonary tuberculosis. The peculiar resonance is the result of the transmission of the sound waves from the bronchial tree to the chest wall by intermediation of the diseased glands. Bending the head forward brings the trachea closer to the spine and this magnifies the characteristic findings. In two cases the findings gradually became negative as enlarged glands in the neck subsided to normal size; he accepts this as evidence that the bronchial glands share in a process affecting the submaxillary glands. With differential vertebral auscultation it must be borne in mind that the bifurcation is higher proportionately in the child than in the adult. Roch discusses the possible sources of error, but concludes from his experience that the sign is destined to prove of great clinical value. It is possible, he adds, that it may not only reveal incipient tuberculous lesions, but may disclose cancerous involvement of the glands in question in certain cases. [Gray's article on vertebral auscultation, to which Roch refers in the course of his article, was reviewed in these columns Aug. 22, 1908, page 709.]

Archiv für Verdauungs-Krankheiten, Berlin

February, XVII, No. 1, pp. 1-118

65 Changes in Gastric Mucosa with Gastric Ulcer. (Veränderungen der Magenschleimhaut beim Ulcus ventriculi rotundum.) F. Crämer.
66 *Movable Cecum. N. D. [illegible]
67 Indican in the [illegible] W. v. Moraczewski.
68 Gastric Motor [illegible] Ulcer and Spastic Stenosis. (Störung der Magenmotilität bei Ulcus ad pylorum und die spastische Pylorusstenose.) S. Jonas.
69 Injections of Fibrolysin in Treatment of Umbilical and Epigastric Hernia. F. Ehrlich.
70 The Gastric Ferment Tests. (Klinischer Wert der Magenfermentproben.) E. Fuld.
71 *Volvulus of the Stomach. (Volvulus des Magens. Nebst einem Beitrag: Röntgenbeobachtung des Magens beim Brechakt.) S. Mühlfelder.
72 Torsion of Hour-Glass Stomach. (Achsendrehung der Pylorushälfte eines angeborenen Sanduhrmagens.) A. Schüle and P. Walther.

66. **Movable Cecum.**—Straschesko reports from Kiev the case of a man of 34 subject to sudden transient attacks of abdominal pain without rise in temperature, but accompanied by distention of the abdomen, nausea and obstinate constipation, the attacks of colic sometimes terminating in transient diarrhea. Palpation gave different findings at different times, and the operation revealed an abnormally movable cecum with defective development of the ascending colon and a single mesentery for both ileum and cecum. The colic is the result of torsion or kinking and the following local peritonitis; the latter may entail adhesions which further complicate the picture and there may be incarceration. The syndrome is often mistaken for chronic appendicitis, but appendicectomy does not cure it. In Straschesko's case the patient was permanently freed from all trouble from this source by cecopexy, the cecum being fastened in the right iliac fossa with six catgut sutures to the parietal peritoneum. Palpation of the intestines is the best means to detect the trouble. Roentgen-ray examination confirming the findings. The kinked bowel became incarcerated in a fatal case recently reported by Heiler. Movable cecum does not cause symptoms in the majority of cases; it is comparatively common, Hausmann having collected 143 cases in six years.

71. **Volvulus of the Stomach.**—Mühlfelder gives the details of twenty-three cases on record and of a case in his own experience. All ages are represented in the list; most of the patients had had gastric disturbances for some time before, some even relating that they had had transient subjective sensations previously, like those of the definite volvulus. It is inevitably fatal in a few hours or days unless it retrogresses or is surgically corrected. In some cases the abd men was opened, but the true condition was not recognize even then, and the patients succumbed. There is no patl ognomonic symptom; the main point is to bear in mind tl possibility of volvulus and weigh carefully all the minor ph nomena observed. In one case a man of 41 suddenly deve oped vomiting, with signs of obstruction of the bowel, di tention of the abdomen, retching and regurgitation of foo and drinks and a slowly increasing tumor in the left hyp chondrium. The operation revealed that the large tumo studded with patches of fresh fat necrosis and bound dov by fresh adhesions, was the stomach; the transverse colc lay above it, and in replacing the colon in its normal positic the stomach twisted around, showing that what had bee supposed to be the front aspect was in reality the posterio The patient recovered. In the personal case reported, a gi of 20 had had recurring appendicitis. The pains in the sic and stomach, cough and vomiting after eating persistir after appendicectomy were ascribed to incipient tuberculosi and tuberculin treatment was commenced. The epigastriu was tender, and on suspicion of complicating gastric ulce feeding was restricted to nutrient injections for a time, du ing which the pains in the stomach were arrested. On resun ing fluid food, the vomiting returned with weak heart actic and small pulse. The heart was entirely on the left sic and the area of dulness differed on different examinations i a puzzling manner. There was no protrusion or patholog resistance in the stomach region, and the patient could c fluid food, and stool followed an enema. Suddenly an acu attack of tetany was observed. This referred the disturl ances to the stomach, but the knowledge came too late, tl patient dying in a second attack a few hours later; necrop revealed the volvulus of the stomach. Mühlfelder seeks t explain the mechanism of volvulus and of the vomiting ac especially vomiting with gastroptosis as a factor in the vo vulus.

Beiträge zur klinischen Chirurgie, Tübingen

January, LXXI, No. 3, pp. 575-846

73 *Fracture of the Malleoli. W. Bergemann.
74 *Diverticulum in the Esophagus. A. T. Jurasz.
75 *Operative Treatment [illegible] de.
76 Vertical Posterior [illegible] (Gastr [illegible] W. Katz.
77 * [illegible] Incision. (Mein schräger Galle Kausch.
78 * [illegible] ening into the Knee. (Ein neues Operationsverfahren zur schonenden Eröffnung des Kniegele kes.) M. Kirschner.
79 *Hour-Glass Stomach. (Zur Klinik und Therapie des Sandul magens.) H. Finsterer.
80 *Goiter Operations. (Zwei Tausend Strumektomien.) Oberst.
81 Chondromas in Joints. (Gelenkchondrome.) E. Rehn.
82 Enlargement of the Cecum. (Typhlektasie.) F. Hofmeist

73. **Treatment of Fractured Malleolus.**—Bergemann thinl that all the advantages are on the side of an adhesive plast splint for a fractured malleolus. This permits proper fun tional treatment, obviates healing in a defective position, a the ultimate outcome is as good, he declares, as with Barde heuer's extension treatment without its drawbacks, heali being complete much sooner and with less trouble for tl patient. The correction by the adhesive plaster dressing supplemented by traction from a broad piece of elastic we bing drawn around the sole and hooked to one of a row hooks set in the anterior crossed broad strip of adhesi plaster. This permits graduation of the elastic traction, a the final results are good, as he shows by the tabulat details of twenty cases. Three illustrations show the exa technic advocated.

74. **Diverticulum in the Esophagus.**—Jurasz reports a typic case of a pharyngo-esophageal diverticulum resulting fro pressure from within on a defect in the muscular coat. Anal sis of the similar cases on record and the experiences wi this case confirm the advantages of gastrostomy as a prelim nary to the radical operation on the diverticulum whic especially with Lexer's technic for care of the stump, ensur a primary and permanent cure.

75. **Operative Treatment of Pancreatic Disease.**—Bo analyzes sixteen operative cases; the operation was done account of cysts in the pancreas in two cases, for cancer

one, for acute suppuration in the pancreas in three, for chronic pancreatitis in five, and for hemorrhage in the pancreas in five cases. This material is reviewed in detail, especially from the standpoints of etiology, diagnosis and technic. His observation has convinced him that necrosis of the pancreas is not a special affection, but merely one symptom that may be encountered with various affections of the pancreas, the result of inflammation or hemorrhage. Fat necrosis is found most constantly in connection with hemorrhage, probably on account of the fact that the accumulating blood destroys the epithelium and membrane, allowing the pancreatic secretion to get into the tissues between the acini. He warns against puncture for an assumed pancreatic cyst, with the abdomen unopened, as too dangerous to be attempted. Trauma was responsible for the hemorrhage in the pancreas in only one of the cases, but straining at stool may have been the causal factor in another case. Alcoholism was probably a cooperating factor in the others, and a tendency to obesity in some. Most writers describe the syndrome of hemorrhage in the pancreas and of acute suppurative pancreatitis as practically identical. In the cases reported by Bode the symptoms of hemorrhage came on suddenly after from two to six weeks of symptoms suggesting peritonitis or appendicitis. When the appendix was exposed, however, it was found intact in some of the cases, but signs of fat tissue necrosis pointed to the pancreas as the source of trouble. Only one patient recovered in this group of pancreas hemorrhage cases.

77. **Slanting Gall-Bladder Incision.**—Kausch makes the incision between and parallel to the course of the nerves in the abdominal wall, as he shows in two illustrations. If the umbilicus is in the way he excises it. All the soft parts are incised along the same line. The ultimate outcome seems to be good, as he has found on later examination of forty-eight patients.

78. **Dovetail Incision to Obtain Access to the Knee Joint.**—Kirschner describes his method of cutting into the extensor apparatus of the knee so as to open up the joint wide, while afterward restoring approximately normal strength to the extensor apparatus. Instead of a horizontal or median incision, he cuts out a trapezoidal indenture like the ordinary dovetailing method of fitting joists and boards together. A number of illustrations show the exact technic with which he is able to saw the extensor apparatus, the patella or upper part of the tibia to cut out the miter-shaped piece. The flap turned back permits ample access to the joint, while when the flap is replaced the broader trapezoidal top fits into its bed, conferring unusual strength and resistance on the severed parts. This dovetailing method may prove useful for other operations elsewhere, as for temporary resections, transplantation of muscles and tendons, etc., but he advises careful following of the directions he has formulated after extensive research on the cadaver. He adds that a little practice on the cadaver will much facilitate the cutting of the miter in bone. The method is scarcely adapted for children on account of possible injury to the epiphysis.

79. **Hour-Glass Stomach.**—Finsterer reports the details of five cases from the Graz clinic and summarizes sixty-six cases from the literature. The mortality has dropped from 100 to 13 per cent. since operative measures were introduced in its management, and this mortality is still declining as surgical treatment is instituted earlier. The indications for the operations are reviewed. He warns against general anesthesia on account of its injuring the stomach still further and possibly entailing acute dilatation.

80. **Two Thousand Goiter Operations.**—Oberst's communication issues from the Freiburg clinic; the patients were mostly from southern Germany and Switzerland, and the interval embraced in the statistics is from 1883 to date. Postoperative tetany developed in seven of the patients, and he emphasizes that every effort should be made to spare the parathyroids the slightest injury. This is easier said than done, he adds; perhaps the best plan is to refrain systematically from any interference with the region in which lies the recurrent nerve, as the parathyroids are generally in this part.

Berliner klinische Wochenschrift

February 13, XLVIII, No. 7, pp. 281-324

83 *Treatment of Morphin Addiction. (Zur Behandlung der Morphinisten.) P. Schroeder.
84 Serodiagnosis of Cystadenoma of the Liver. J. H. Schultz.
85 Inhalation of Epinephrin in Treatment of Acute Catarrh of Upper Respiratory Tract. G. Zuelzer.
86 *Albumin Reaction in Sputum. M. Gantz and R. Hertz.
87 Reciprocal Interaction of Internal Secretions. (Experimentelle
gegenseitige Wechselwirkungen innerer
R. Balint and B. Molnar.
88 Tuberculin Produced in the Body?
lem im Körper produzierten Tuberku-
89 Results with Salvarsan to Date. A. v. Torday.
90 *Left-Handed School Children. (Die Linkshänder in den Berliner Gemeindeschulen.) M. Schaefer.
91 *Urine Reaction in Infants. (Das Wesen der Engel-Turnau'schen Harnreaktion.) F. Boschan.

83. **Morphin Addiction.**—Schroeder has not found the results of sudden and complete deprivation of morphin any more serious than when the drug is tapered off. He gives the details of five typical cases to sustain his advocacy of sudden suppression under constant supervision.

86. Abstracted in THE JOURNAL, March 4, page 702.

90. **Left-Handed Children.**—Schaefer found that 692 of the 17,074 school children examined at Berlin were left-handed. This is a proportion of 4.06 per cent., but the boys nearly twice outnumbered the girls. Inheritance of the tendency was evident in 60.2 per cent. He discusses the anatomic causes for left-handedness, and denounces the present system in vogue which takes no account of the natural instinct to use the left hand as the main instrument, and compels all the children to use the right hand. Instead of training the left hand to expert skill, the training is wasted, he says, on the hand which Nature did not intend to have serve as the main instrument, and which will never attain the skill which the other might have attained.

91. **Reaction in Infant's Urine.**—Boschan's communication was summarized in Abstract 67 in THE JOURNAL, March 11, page 782.

Deutsche medizinische Wochenschrift, Berlin

February 16, XXXVII, No. 7, pp. 289-336

92 Puerperal Self-Infection. F. Ahlfeld.
93 *Herpes Zoster and Kidney Colic. (Beitrag zur Kenntnis der Headschen Zonen.) A. Bittorf.
94 n Sleeping Sickness. Scherschmidt.
95 * r" Test. (Ueber kutane und intrakutane
unter Verwendung abgestufter Dosen
und ihre Bedeutung für die Diagnose der Tuberkulose.) S. Möller.
96 Abdominovaginal Operation for Carcinoma Involving Rectum, Uterus and Bladder. (Zur abdominellen Radikaloperation des Gebärmutterkarzinoms.) L. Seeligmann.
97 *Physical Properties of Drugs in Treatment of Syphilis. J. Traube.
98 rosy. (Fehlen freien Komplementes im
J. Eliasberg.
Antigen.) R.
99 Peculiar Pigmentation of Internal
Negroes. M. Löhlein.
100 Iodism and Thyroidism. Berg.

93. **Herpes Zoster and Renal Colic.**—Bittorf describes a case in which intermittent hydronephrosis in a wandering kidney induced occasional attacks of colic and during a recent severe attack herpes zoster developed, its location then corresponding exactly to the eleventh dorsal segment. The condition of irritation in the spinal ganglion evidently afforded a predisposition for the herpes zoster. In other cases on record, herpes zoster developed in Head's zone corresponding to the internal organ suffering from a painful affection. With an affection of the aorta, pain and hyperalgesia in the ulnar side of the left forearm may be the most important subjective symptom of the cardiovascular trouble. He has encountered this a number of times with pronounced sclerosis of the aorta.

95. **"Tuberculin Titer" Test.**—Möller has been applying the graduated technic introduced by Ellermann and Erlandsen [mentioned in THE JOURNAL, March 18, 1911, page 856]. His findings in 250 patients confirm those reported by others, but he does not think that any of the tuberculin superficial tests are able to determine positively whether the tuberculosis is active or latent. At the same time, when the tuberculosis is in the first or second stage a reaction to the cutaneous and intradermal tuberculin tests occurs with minute doses, too

small to induce any reaction in the non-tuberculous. Of nineteen patients in this group ten reacted positively to 0.0000002 gm. tuberculin, but 11.2 per cent. of 125 clinically free from tuberculosis gave likewise a positive reaction to this dose. There was a family history of tuberculosis in nearly all these positive cases. He thinks that the reaction in these cases indicates a tendency for the latent tuberculous focus to become active. Every patient giving a positive reaction should be given the benefit of special measures as if already clinically tuberculous, and should be frequently reexamined.

97. **Treatment of Syphilis.**—Traube states that the changes in the physical properties of drugs and in the blood under the influence of the drugs deserve greater attention. He has been studying them with his stalagmometer; this records the number of drops in a given volume of the fluid, comparing them with the standard number of drops of water. His research seems to show that the action of salvarsan is due essentially to its basic and precipitating properties, and he thinks that it may be possible to find other elements possessing the same physical properties and which thus may prove equally effectual in therapeutics while free from the drawbacks of the arsenic compounds. He is convinced that the physical properties of drugs rank in importance over their chemical properties, while chemotherapeutic research seems to have overlooked this fact mostly to date.

Medizinische Klinik, Berlin

February 12, VII, No. 7, pp. 249-288

101 *Treatment of Chronic Catarrh of the Large Intestine. R. Kolisch.
102 Otologic Findings in Reference to Trauma of the Head. (Verwertung otologischer Untersuchungsmethoden bei der Begutachtung Kopfverletzter.) Rhese.
103 Prophylaxis and Treatment of Contractures. P. Zander.
104 *Technic for the Fresh-Air Cure. (Fortschritt in der Liegekur [illegible] hring.
105 [illegible] F. Kobrak.
106 [illegible] M. Schwartz.

February 19, No. 8, pp. 289-326

107 *Senile Chorea. H. Eichhorst.
108 Head's Superficial Temperature Sense. (Ueber Henry Heads Lehre von Temperatursinn der Haut.) A. Goldscheider.
109 Determination of Acidity of Gastric Juice. (Bestimmung der Azidität des Magensafts.) M. Bönniger.
110 Appendicitis at Greifswald, 1901-1910. H. v. Tappeiner.
111 Scaphoid Scapula. (Ein häufig vorkommende Anomalie des Schulterblattes.) W. W. Graves (St. Louis).
112 *Venesection in Treatment of Polycythemia. (Ueber Polyzythämie mit besonderer Berücksichtigung grösserer Aderlässe.) A. Hörder.
113 The Sympathetic Nervous System. (Das vegetative Nervensystem.) A. Frölich.

101. **Chronic Catarrh of the Large Intestine.**—Kolisch concludes his summary of the progress in late years in treatment of catarrh of the large intestine with the assertion that the only progress has been in the dietetic treatment, and this only by the better differentiation of the individual conditions by the functional tests, permitting regulation of the diet to conform to existing conditions. The possibility that the stomach may be primarily responsible for the intestinal trouble should never be forgotten.

104. **Fresh-Air Reclining in Severe Climates.**—Nöhring has the windows of the halls used for fresh-air reclining closed at night and the heat turned on in the morning, so that the floor and walls never get thoroughly chilled through although the big windows are all open to the floor during the day while the patients are reclining there. If the day is dry, he has a temperature as low as 32 F. in the halls but if the weather is damp he does not let the halls get colder than 50 or 52 F. Five years' experience has convinced him that this modification of the rigorous northern climate gives far better ultimate results than attempts to enforce the actual climatic conditions.

107. **Senile Chorea.**—Eichhorst describes two cases of typical chorea in a man of 80, and a woman of 73. In both the chorea developed after emotional stress; in both the chorea was on one side only and the necropsy findings were negative. The man died the fourth week after the onset of the right-sided chorea, and the woman during the fifth year of chronic left-sided chorea. In fifty-three cases of senile chorea on record, emotional stress was cited as a causal factor in 17 per cent.; 25 per cent. of the total fifty-five patients died soon after the onset of the chorea, and it became chronic in 49 per cent. In Bourneville's case, the chorea developing in a woman of 64 continued for twenty-four years. There was more or less mental disturbance in 43.5 per cent. of the cases; in 23.6 per cent. the chorea was unilateral.

112. **Polycythemia.**—Hörder adds another to the seventy or eighty cases on record of primary polycythemia. His patient was a man of 51, healthy until five years ago when enlargement of the spleen began to cause discomfort and a year later the signs of polycythemia became pronounced. Hörder regards the disease as a morbid entity involving the composition and distribution of the blood. Venesection, large amounts of blood being withdrawn, gave constant although transient relief in this case, the number of red corpuscles dropping by three or four millions and the other disturbances becoming attenuated after each blood-letting. It was repeated six times in the course of two months, from 150 to 700 c.c. of blood being withdrawn. The first count showed 10,700,000, with hemoglobin 130 per cent.; the last count, nine days after the fifth venesection, showed 9,500,000 reds.

Münchener medizinische Wochenschrift

February 14, LVIII, No. 7, pp. 337-392

114 *Ovarian Origin of Uterine Hemorrhage in Some Cases. [illegible] ichen Uterus und Ovarien, ein [illegible] gynäkologischer Blutungen.) M. [illegible]
115 *Albumin (Casein) Milk in Infant Feeding. (Zur Technik und Indikation der Ernährung mit Eiweissmilch.) H. Finkelstein and L. F. Meyer.
116 *Importance of Appetite in Estimation of Stomach Function. (Einfluss des Appetits auf die Magentätigkeit und seine Bedeutung für die funktionelle Magendiagnostik.) O. Fischer.
117 *Importance for Prognosis of Invasion of Blood by Germs. (Prognostische Bedeutung des Uebertritts von Keimen ins Blut.) E. Sachs.
118 *By-Effects of Salvarsan. (Nebenwirkung des Salvarsans.) W. Gilbert and J. Sellei.
119 *Direct Lavage of the Duodenum. (Dirkte Berieslung des Duodenums.) M. Gross.
120 Color Scale for Estimation of Pigmentation. (Entwurf einer Farbenskala zur Bestimmung physiologischer und pathologischer Pigmentierungen.) F. B. Solger.
121 Ovarian Therapy. (Beitrag zur Eierstock-Therapie.) R. Einhauser.
122 *Typhoid Meningitis. (Typhusbazillen in der Zerebrospinalflüssigkeit.) A. Stühmer.
123 *Nascent Mercury in Treatment of Syphilis. F. Hubbes.
124 Infant Consultations, Milk Stations, etc., in Munich. (Zwei Jahre offene Säuglingsfürsorge.) A. Uffenheimer. Commenced in No. 6.

114. **Reciprocal Relations Between Uterus and Ovaries.**—Henkel has had opportunity to examine these relations in 150 operative cases during the last few years. The findings can generally be classified in two groups: those in which there is an unusual number of follicles and those in which they are unusually scanty. In the first group the irritation from ripening of an unusually large number of follicles induces changes in the uterine mucosa which are liable to entail uterine hem[illegible]rhage. The hemorrhage in such cases must be regarde[illegible] a menstrual phenomenon, as it is the expression of the [illegible]ticipation of the uterine mucosa in the abnormally freq[illegible] ovarian processes. In such cases partial resection of the ovaries has proved an effectual means of removing the cause for this atypical menstruation. He found that it generally cured also any existing tendency to dysmenorrhea. In the other group, in which the organ is abnormally small and defectively developed, ovarian treatment seems to promote the further development of the ovaries and to cure the tendency to uterine hemorrhage. Palpation usually enables the two forms of ovaries to be distinguished. He makes it a principle to remove the ovaries with the uterus in case of myoma requiring laparotomy; the after-effects were no worse than when the ovaries were left, while the operative results were much better. His idea is that the uterus forms an integral part with the ovaries of the genital apparatus, and that the loss of one or the other destroys the functioning of the one left.

115. **Albumin Milk.**—Finkelstein and Meyer relate their further experiences with the albumin milk and emphasize the fact that it is not a food for healthy infants, and should not be given in conjunction with other food or milk. [The method of its preparation was described in The Journal, July 2, 1910, page 93.] They summarize here the special indications for this casein food.

116. **Influence of Appetite on Test Gastric Functioning.**—Fischer declares that the ordinary test meal pays too little attention to the appetite; a meal that is more palatable gives a much better oversight of gastric functioning. He has found extremely useful a breakfast in which the patient is allowed to select his beverage from the list: milk, coffee, tea, bouillon and weak lemonade, each 300 c.c. With this is allowed a roll or slice of bread (75 gm. bread), butter 20 gm. and 70 gm. of scraped raw meat, ham or sausage or two eggs or a herring. Comparative tests with this and the ordinary test breakfast showed that the "appetite breakfast" supplied much better information in regard to the secretory and motor functioning than the ordinary test breakfast.

117. **Conditions in Which Germs Pass Into the Blood.**—Sachs points out that the prognosis is very different when the germs are forced into the blood by some mechanical influence or primary absorption. The organism is generally able to conquer the germs invading the circulation in these cases. Conditions are different when there is chronic absorption of the germs and they are found to be proliferating in the blood; this indicates extra virulence.

118. **By-Effects of Salvarsan.**—Gilbert injected 0.2 gm. of salvarsan into the left gluteal muscle of a 9-year-old girl with parenchymatous keratitis; there was slight spastic paresis in the right leg and the Wassermann reaction was positive, although the parents denied syphilis. At the age of 6 there had been an obscure nervous attack and the paresis was possibly the sequel of a syphilitic meningitis at that time. Eighty-one hours after the injection the child was found unconscious in collapse, and epileptiform seizures developed, increasing in number and severity, with pulse 160, extreme cyanosis and foam at the mouth, so that a fatal outcome seemed inevitable, but the child gradually recovered in four or five days. If the collapse had occurred in the night, it is scarcely probable that the child would have been saved. Gilbert adds that slight paresis suggesting a possibility of meningitis in the past should contra-indicate salvarsan unless the patient can be kept under constant clinical supervision.—Sellei reports three cases of recent syphilis in which injection of salvarsan was soon followed by disturbances in hearing; in another case a syphilitic injury of the auditory nerve subsided under an injection of salvarsan.

119. See The Journal, April 23, 1910, page 1365.

122. **Typhoid Meningitis.**—Stühmer reports a case in which typhoid infection seemed to have localized exclusively in the meninges, typhoid bacilli being found in the cerebrospinal fluid obtained by lumbar puncture. The latter, he asserts, had an unmistakably curative effect on the meningitic symptoms. He has found eight cases of typhoid meningitis in the literature, in all but three of which the patients recovered.

123. **Inhalation of Nascent Mercury in Syphilis.**—Hubbes heats cinnabar (red mercuric sulphid) and has the patient inhale the fumes of the nascent mercury. In order to get rid of the sulphur he adds pure iron to the cinnabar; this binds the sulphur in the form of ferrous sulphid. Without the iron the sulphur forms the dangerous sulphur dioxid, but this is obviated by adding a corresponding amount of chemically pure iron. This nascent mercury seems to have an intensely toxic action on the spirochetes and combining with the hemoglobin follows them to the remotest parts in the body. He has seen the severest syphilis subside without recurrence to date under eight or ten sittings in the course of four or five days. He has had two and one-half years' experience with this method and has never had a failure, and affirms that with this method of using mercury there is no need to go farther afield for any other remedy.

Virchows Archiv, Berlin

February, CCIII, No. 2, pp. 161-320

125 Lipoma Containing Bone in the Tuber Cinereum. H. Zuckermann. Commenced in No. 1.
126 Lipoma in Pia Mater. B. Hecht.
127 Intestinal Emphysema. S. Ciechanowski.
128 *Obstruction of Mesenteric Blood-Vessels. (Verschluss der [illegible]) G. Bolognesi.
129 " Stricture of the Prostatic Urethra.
130 Thyroid Deformity. (Missbildungen der Schilddrüse.) P. Schilder.

128. **Obstruction of the Mesenteric Blood-Vessels.**—Bolognesi summarizes the clinical and experimental experiences in this line on record, and reports extensive personal research on rabbits.

Wiener klinische Wochenschrift, Vienna

February 16, XXIV, No. 7, pp. 227-262

131 Extracellular Action of Leukocytes. (Aphagozidie.) E. Weil.
132 Bismuth Paste in Treatment of Chronic Suppuration. (Behandlung chronischer Eiterungen mit Wismutpaste nach Beck.) H. H. Schmid.
133 Salvarsan. (Zur therapeutischen Bedeutung des Arsenobenzols.) W. Reiss and F. Krzysztalowicz. (Zur Applikationsweise des Salvarsans.) J. Hahn.
134 Comparative Study of Registration of Auricle Pulsation within the Esophagus and the Electrocardiogram. (Vergleichende Berechnung des Oesophagogramms mit dem Elektrokardiogramm.) W. Janowski.

Zentralblatt für Chirurgie, Leipsic

February 18, XXXVIII, No. 7, pp. 225-264

135 *Dangers of Diverting Urine into Intestine. (Zur Operation der Blasenektopie bzw. zur Versorgung des Harnleiters nach Blasenexstirpation.) K. Spannaus.
136 *Treatment of Ankylosis of the Patella. A. Schanz.

135. **Dangers of Implantation of Ureter in Intestine.**—Spannaus reports two cases in which he successfully implanted the ureters in a stretch of bowel according to the technics recently advocated by Fink and by Goldenberg. Theoretically, the operation seems promising but in both of his cases the diversion of the urine into the intestine proved disastrous, the intestine evidently having absorbed noxious elements of the urine with resulting uremia, while the urine had a distinctly injurious action on the bowel mucosa. His first patient, a man of 43, had the bladder removed on account of hemorrhagic papilloma; a receptacle for the urine was formed out of an excluded stretch of ileum fastened outside the peritoneum. The wound healed smoothly but diarrhea developed two weeks later to which the man succumbed. The second patient was a woman of 40 with cancer developing on exstrophy of the bladder. The ureter was implanted in the excluded stretch of ileum and the wound was healing when symptoms of uremia became manifest and the woman died the seventh day.

136. **Ankylosis of the Patella.**—Schanz comments on the unsatisfactory results of the present methods of treating adhesion of the patella to the femur. When the adhesion is broken up, it has been only a question of time before the parts grew together again. This is avoided by the simple device of transferring the bursa between the patella and the skin to the space between the patella and the femur—thus merely changing the position of the bursa from the front to the back of the patella. He has done this in two cases and the procedure was so simple and easy and the result so ideal that he commends it for general adoption in treatment of ankylosis of the knee. The nutrition of the skin over the patella did not seem to suffer in the least in his two cases after removal of the bursa between.

Zentralblatt für Gynäkologie, Leipsic

February 18, XXXV, No. 7, pp. 257-296

137 Care of Wound After Abdominal Hysterectomy. (Zur Wundversorgung bei der abdominalen Radikaloperation.) W. Hannes.
138 Drainage of Abdominal Cavity. (Was beabsichtigen wir mit der Bauchhöhlendrainage zu erreichen?) A. Sippel.
139 *Progress or Going Backward? (Vermeintlicher Fortschritt und Rückzug.) E. Roth.

139. **Progress Forward or Backward?**—Roth thinks that the time has come to take stock of the boasted progress of the last fifteen years in medicine and see whether all of it can be regarded as an actual onward advance. Science has not escaped the blight of restlessness and haste characteristic of the age. New conceptions and methods are constantly being promulgated in the medical press and they are hailed as progress on account of the modern longing for change, but whether they really represent progress is another question. He strives to answer this in regard to allowing parturients to leave the bed early, Cesarean section for placenta prævia, extraperitoneal Cesarean section, vaginal methods for operations on the uterus, and the transverse incision (*Fascienquerschnitt*)—all popular in certain quarters in Germany. His conclusions are to the effect that the drawbacks of allowing women to get up before the seventh or eighth day outweigh

the benefits, and a retreat should be sounded. The advantages of a little early exercise can be obtained without leaving the bed. Cesarean section as a systematic method of managing placenta prævia is another evil which should be abandoned, he argues, as also the tendency to too exclusive use of the vaginal route. The by-injuries with vaginal operations are increasing in number, as, for example, the case of the woman whose sterility it was sought to cure by a salpingostomy; during this there was so much hemorrhage that the uterus had to be removed to arrest it. Dührssen's mortality in 441 vaginal operations was 13, while Krönig's was only 2 in 485 abdominal operations. The transverse incision is also proving unsatisfactory on account of the difficulty of restoring anatomic conditions afterward, as he shows by statistics from various clinics. Here, too, he declares, a retreat should be sounded. The enthusiasm for extraperitoneal Cesarean section has also subsided as it has been shown that it is not suited any better than the classic technic for suspicious cases. So of all this boasted progress nothing, he declares, has stood the test of time.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 7, XXXII, No. 17, pp. 179-186

140 Pathogenesis of Acromegaly. G. A. Pari.

February 12, No. 19, pp. 195-210

141 Importance of Stomach Content in Dubious Cancer Cases. (Importanza dell'esame del contenuto gastrico nelle forme gastro-intestinali delle persone avanzate in eta, progressivamente gravi.) L. Marchetti.

Policlinico, Rome

February 12, XVIII, No. 7, pp. 197-228

142 Autolysates of Tissues in Treatment of Tumors. G. Fichera.
143 Restoration of Duct of Steno. (Escisione di un tratto di condotto di Stenone e reintegrazione del canale.) G. Buccolini.

Riforma Medica, Naples

February 13, XXVII, No. 7, pp. 169-196

144 *Formation of Specific Antibodies and Fixation of Complement in Malaria. L. Ferrannini.
145 *Possible Cause of Error in Hydrostatic Test of Infant's Lung. A. Cevidalli.

144. **Fixation of Complement in Malaria.**—Ferrannini has been applying the complement-fixation test in malaria with extracts of malarial spleens for the antigen. The findings were constantly negative, and the negative findings of other investigators with different technics all apparently confirm the fact that malarial infection does not induce the production of antibodies. This confirms the clinical experience that an attack of malaria does not confer immunity; there is no production of agglutinins or precipitins. This explains the difficulty in radically curing the disease and the susceptibility to subsequent attacks although it is possible that a racial immunity may be gradually developing. He is inclined to suspect possibly latent syphilis in the positive findings with the Wassermann test reported by DeBlasi in 52 per cent. of his malarial patients examined and by Boehm in about 30 per cent.

145. **Hydrostatic Test of Infant's Lung.**—Cevidalli reports actual experiences which demonstrate that if the fetus gets any of the amniotic fluid in its lungs, the sebaceous smegma in the fluid is liable to make the lung float whether the child has breathed or not.

Ugeskrift for Læger, Copenhagen

February 16, LXXIII, No. 7, pp. 212-251

146 *Toothache in the Toothless. (Tandsmerter hos Tandlose.) M. Melchior.

146. **Toothache in the Toothless.**—Melchior warns against ascribing to the teeth what may be neuralgia from pressure on the nerve by some minute focus in the jaw. Or the trouble may be a reflex neuralgia from constipation, uterine disease, etc. In one patient, the "toothache" had persisted for a long time involving the upper jaw on both sides and persisting after all the upper teeth had been extracted. On suspicion of syphilis, potassium iodid was then given when the pain soon entirely subsided. Careful study of the case, especially noting the definite point where the pain begins, may point to the exact site of the hidden causal lesion.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

INTRODUCTION TO PRACTICAL ORGANIC CHEMISTRY. Including Qualitative and Quantitative Analysis and Preparations. With Spe-
London University Syllabus, and Schemes of
nd 2 of the Board of Education Syllabus. By
nd.), Ph.D. (Heidelberg), Lecturer on Chem-
Hospital, 1910. Cloth. Price, $1.35 net. Pp. 204, with 50 illustrations. New York: Oxford University Press, 1910.

A SYSTEM OF OPHTHALMIC OPERATIONS. Being a Complete Treatise on the Operative Conduct of Ocular Diseases and Some Extraocular Conditions Causing Eye Symptoms. Edited and Partly Written by Casey A. Wood, M.D., C.M., D.C.L., Late Professor of Ophthalmology and Head of the Department, Northwestern University Medical School. Complete in Two Volumes. Volumes I and II. Cloth. Price, $15. Pp. 1824, with 968 illustrations. Chicago: Cleveland Press, 1911.

LA BASE DE TOUTE RÉFORME. Santé, Richesse et Liberté Assurées à la Societé et à Chaque Individu par l'Alimentation Rationnelle. Exposé concis de la question alimentaire à la lumière des découvertes récentes de la physiologie et de l'anatomie humaines et comparées, de la chimie, de la géologie, de l'histoire et de la philosophie. Par Otto Carque. Paper. Price, 2 francs. Pp. 85, with illustrations. Paris: A. Maloine, 25-27, rue de l'Ecole de Médecine.

A TEXT-BOOK OF GYNECOLOGIC SURGERY. By Comyns Berkeley, M.A., M.D., B.C.Cantab., Gynecologist and Obstetrician to the Middlesex Hospital, and Victor Bonney, M.S., M.D., B.Sc.Lond., Assistant Gynecologist and Assistant Obstetrician to the Middlesex Hospital. Cloth. Price, $5 net. Pp. 720, with 392 illustrations. New York: Funk & Wagnalls Co., 1911.

DER LUPUS: SEINE PATHOLOGIE, THERAPIE, PROPHYLAXE. Für den praktischen Gebrauch geschrieben. Von Prof. Dr. L. Philippson, Direktor der Dermatologischen Universitätsklinik zu Palermo. Aus dem italienischen Manuskript übersetzt von Dr. Fritz Juliusberg. Paper. Price, 2 marks. Pp. 42, with 14 illustrations. Berlin: Julius Springer, 1911.

HISTORY OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION. With Biographies of its Presidents, Complete Roster of its Officers, Programs of its Meetings, and the Past and Present Laws Relating to the Practice of Medicine in Mississippi. Cloth. Pp. 171. Dr. E. F. Howard, Secretary, 506 First National Bank Building, Vicksburg, Miss., 1910.

FOODS AND THEIR ADULTERATION. Origin, Manufacture and Composition of Food Products; Infants' and Invalids' Foods; Detection of Common Adulterations, and Food Standards. By Harvey W. Wiley, M.D., Ph.D. Cloth. Second Edition. Price, $4 net. Pp. 641, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

NEW YORK STATE LIBRARY YEAR-BOOK OF LEGISLATION, 1908. Edited by Clarence B. Lester, Legislative Reference Librarian. Legislation Bulletins 37, 38 and 39, Digest of Governors' Messages 1908, Index of Legislation 1908, Review of Legislation 1907-1908. Cloth. Price, $1. Pp. 513. Albany: University of the State of New York, 1910.

DIAGNOSTIC AND THERAPEUTIC TECHNIC. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D., Adjunct Professor of Surgery in the New York Polyclinic. Cloth. Price, $4 net. Pp. 775, with 815 illustrations. Philadelphia: W. B. Saunders Co., 1911.

PHOTOGRAPHIC ATLAS OF RADIOGRAPHY OF THE MASTOID REGION AND OF THE NASAL ACCESSORY SINUSES. By Joseph C. Beck, M.D., Clinical Professor of Oto-Laryngology, College of Physicians and Surgeons, University of Illinois. Half Morocco. Price, $8. St. Louis: The Laryngoscope Co., 1911.

ACUTE ANTERIOR POLIOMYELITIS (INFANTILE PARALYSIS). A Précis by Wade H. Frost, Passed Assistant Surgeon. Prepared by Direction of the Surgeon General. Pub. Health Bull. 44, February, 1911. U. S. P. H. and M.-H. S. Paper. Pp. 52. Washington: Government Printing Office, 1911.

DER FRAUENKRANKHEITEN. Für die Praxis
J. Veit, Professor und Direktor der Univer-
Halle a.S., Geh.Med.-Rat. Paper. Price, 8.20 marks. Pp. 242, with 34 illustrations. Berlin: S. Karger, Karlstrasse 15, 1911.

PUBLIC HYGIENE. By Thomas S. Blair, M.D., Neurologist Harrisburgh, P
Assisted by Numerous Contributors. In
I and II. Cloth. Price, $10 net. Pp. 644,
Boston: Richard G. Badger, (1911).

REPORTS OF THE TRUSTEES, RESIDENT OFFICERS AND VISITING COMMITTEE OF THE MAINE INSANE HOSPITAL AND EASTERN MAINE INSANE HOSPITAL. For the Year Ending Nov. 30, 1910. Paper. Pp. 42, with illustrations. Henry W. Miller, M.D., Superintendent, 1911.

HAND-BOOK OF THE SURGERY OF THE KIDNEYS. By W. Bruce Clarke, M.A., M.B. (Oxon.), F.R.C.S., Senior Surgeon to St. Bartholomew's Hospital. Cloth. Price, $4 net. Pp. 199, with 50 illustrations. New York: Oxford University Press, 1911.

TWENTY-EIGHTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF INDIANA. For the Fiscal and Board Year Ending Sept. 30, 1909. Statistical Year Ending Dec. 31, 1909. To the Governor. Cloth. Pp. 638. J. N. Hurty, Secretary, Indianapolis, Ind.

DIGITALIS STANDARDIZATION AND THE VARIABILITY OF CRUDE AND OF MEDICINAL PREPARATIONS. By Worth Hale. Hyg. Lab. Bull. 74, January, 1911. U. S. P. H. and M.-H. S. Paper. Pp. 53. Washington: Government Printing Office, 1911.

REPORT OF THE SUPERINTENDENT MINNESOTA SCHOOL FOR FEEBLE-MINDED AND COLONY FOR EPILEPTICS. Biennial Period, Ending July 31, 1910. Paper. Pp. 235, with illustrations. A. C. Rogers, M.D., Superintendent. 1910.

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CHRONIC URETHRITIS AND CHRONIC URETERITIS CAUSED BY TONSILLITIS *

GUY L. HUNNER, M.D.
Associate in Gynecology, Johns Hopkins University
BALTIMORE

The tonsils have been made the scapegoat for so many human ills that one hesitates to bring another charge against them. For eighteen months past, since having my attention directed to the possible relationship between tonsillitis and certain cases of chronic urethritis and chronic ureteritis, the evidence has been accumulating with such force that I feel justified in drawing up the indictment and ask that the problem be taken under advisement and judgment passed on it after experience may have justified or negatived my claims.

In a comparatively recent paper, Rosenheim[1] has reviewed the literature and found the following list of *ailments ascribed in certain cases to tonsillar infection*: aneurysm, appendicitis, erysipelas, and a number of other skin manifestations, meningitis, iritis, pleuritis, pericarditis, pneumonia, paraplegia and strabismus, parotitis, nephritis, osteomyelitis, phlegmon of the lower extremities, oophoritis and orchitis, septicemia, typhoid beginning with an angina, and tuberculosis.

It is only natural that we should look on such a list with some mental reservations, but no intelligent physician of to-day will deny that the infections and toxins of tonsillitis have an important causal relationship to many forms of rheumatism.

Those who have worked with the diseases of the urinary organs in women have for a number of years been familiar with the so-called rheumatic urethritis. In using this term I wish to exclude the old text-book application, for undoubtedly most cases of chronic granular urethritis are due to old gonorrheal infection, and our text-books have included these under the term "rheumatic." But we have seen many cases in which gonorrhea could be ruled out to a practical certainty and for which we have been at a loss for the etiologic factor. This is particularly true in the cases of respectable unmarried women who have a persistent urethritis and have intact hymen and very little probability of ever having contracted gonorrhea. Some of these chronic urethritides are associated with vulvitis and I have been inclined to class some of them as traumatic infections due to onanism. We see rare cases of cystitis and urethritis following immediately after marriage in which gonorrhea can be ruled out, and we find the infecting agent to be the colon bacillus or some other microorganism. These are undoubtedly traumatic infections. Theoretically a few of our chronic urethritis cases might be classed as auto-infections, because of the very short urethra and the myriads of bacilli and cocci normally inhabiting the region of the external urethral orifice.

If we rule out these possible auto-infections, gonorrhea, and trauma and infection from childbirth, coitus and onanism, we still have left a not inconsiderable proportion of our chronic urethritis cases for which we have heretofore been at a loss to explain the origin, and we have generally classed them as rheumatic urethritis. As a matter of fact most of these patients have suffered from some form of rheumatism and the local urethral treatment is more effective if the patient is given simultaneous internal antirheumatic treatment.

My experience with these cases is that they generally respond to local treatment more quickly than the chronic gonorrheal cases (although there are numerous exceptions to this rule), and as a rule they relapse within a *few weeks or possibly months after the patients think* themselves well.

I am not certain that there is any speculum picture to differentiate the rheumatic from the gonorrheal cases, but I am under the impression that we will find, in many of the rheumatic cases, most inflammation about the inner third of the urethra, while we all know that in the gonorrheal cases the inflammation persists longest about the outer third of the urethra, where are located most of the urethral crypts and glands.

ILLUSTRATIVE CASES

Case 1.—My attention was first called to the possible relationship between the tonsils and the urethra by a patient whom I had been treating for chronic urethritis from December, 1908, to May, 1909. During this five months I had been treating the urethra once or twice a week by dilating with Hegar dilators and mopping the urethra with either 3 or 10 per cent. silver solution. During this time I had on one occasion prescribed a gargle for a sore throat. May 20 the patient asked me why her throat should always be irritated immediately after I made the silver application. This sore throat lasted as long as the urethral reaction was active, about twenty-four hours if I used the 3 per cent. silver, and as long as three days after the 10 per cent. silver. She said that she had noticed this phenomenon for some time and she had also noticed that her throat and urethral irritation always seemed to be aggravated in damp weather. I examined her throat and found that the tonsils were large and presented numerous crypts over the surface. I referred her to Dr. T. Chew Worthington who reported as follows: "The tonsils, while very deep and buried between the pillars, are much larger than they appear, and show evidence of frequent inflammation, and I believe that they are largely responsible for the patient's rheumatic trouble; but I do not know to what extent they may cause the urethritis." They were so riddled by necrotic foci that it was impossible to remove them except by morcellement. I saw the patient three times within the next two months and her symptoms had rapidly disappeared, although she was having some discomfort at times and the urethra showed some granulations over its inner half.

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* Read before the meeting of the Southern Surgical and Gynecological Association at Nashville, Tenn., Dec. 13, 1910.

[1] Rosenheim: The Tonsillar Ring and the Paranasal Sinuses as Portals of Entry of Infectious Diseases, Bull. Johns Hopkins Hosp., November, 1908, xix, 338.

One can scarcely appreciate the marvelous change in this patient without knowing the details of her history and having treated her as I did for five months without appreciable permanent relief. She was a single woman, a seamstress, 42 years of age and had entered the menopause two years previously. She remembers one attack of inflammatory rheumatism when 25. She had had bladder irritation at times for eight years, this occurring only once or twice a year up to within two years ago, since which time she had had no relief. She complained of great frequency and of sharp stinging pain in the neck of the bladder while voiding. She was often afraid to leave the house because of her inability to control the bladder. In addition to the local symptoms she had pain in the right groin and great discomfort and soreness across the entire lower abdomen. She often had a sinking feeling, nausea, and a desire to void if she made a misstep while walking, or if she rocked in a chair, or drove over a rough road, or rode in the street car. Bimanual examination of the pelvis and lower abdomen elicited considerable muscle spasm, and because of this and her very indefinite symptoms I was led on several occasions to think of the possibility of chronic appendicitis. Pelvic examination and high rectal examination were negative. Palpation over the urethra caused reflex pain in the bladder region. The most striking feature of her examination was the fact that on distention of the urethra when injecting the 10 per cent. cocain solution preparatory to the urethral treatment the patient always complained that I caused her typical abdominal pains reaching as high as the umbilicus, and a feeling of nausea. It was this one persistent and consistent complaint of the patient that soon led me to cease thinking of a chronic appendicitis. It well illustrates also a dictum that I have given my students for a number of years, viz., when dealing with any obscure abdominal complaint located below the level of the umbilicus, never to overlook an examination of the urethra.

Within two months after the tonsils were removed, the preliminary distention of the urethra with cocain did not cause abdominal discomfort. The spontaneous abdominal discomfort had disappeared and the only symptom was a slight local irritation in the urethra.

At my request the patient came to my office on Dec. 1, 1910. She had been practically well for the intervening fourteen months. On some days she is conscious of a slight uneasiness in the bladder, but she often holds the urine all day. She has never had the soreness across the hypogastrium nor the nausea and sinking attacks. Riding over a rough road or jarring from any cause does not affect her. While formerly she never dared sit in a draft, she now does not consider such matters. The anxious, harassed expression of the face has disappeared and she claims to be in perfect health. Cystoscopic examination shows the urethral mucous membrane to be normal.

Case 2.—In February, 1909, Dr. A. I. Miller, of Brattleboro, Vt., sent me a Miss B., aged 35, who had been complaining of bladder trouble since an operation for uterine displacement in October, 1907. The patient was in an extremely nervous condition and examination showed the urethra to be contracted throughout its length and to have a very granular, red mucosa. She remained at the Johns Hopkins Hospital for six weeks, being treated for her nervousness and having the urethra treated about once a week. Within six weeks the urethra easily took a number 12 Hegar (12 mm.) dilator and its mucosa was normal-looking. Fearing a return of her trouble, the patient did not go home on dismissal from the hospital and her fears were well founded, for her urethral irritation returned in a few days. In May the patient was complaining of joint trouble for the first time and was placed on aspirin treatment which helped her joints and seemed to help the urethra. After my experience with the first case and in view of her rheumatic manifestations I examined the patient's throat and found that she had large tonsils. She refused to have these operated on until Dec. 23, 1909, when Dr. H. C. Davis removed her tonsils, finding them in much the same condition as those found in the first patient. The patient's urethra answered more readily to the treatment after the removal of the tonsils, but for about seven months there was a small area at the base of the right tonsil which became much irritated at times, and the patient was then very likely to complain of rheumatism in her knees and of the urethral irritation. After the spot in the right fauces was repeatedly touched with 10 per cent. silver solution and the urethra dilated and touched with solution of the same strength the patient has finally made an apparent complete recovery For four months past the irritation has been almost completely absent and the urethral mucosa, examined on a number of occasions, has remained normal.

Case 3.—Miss W., aged 48, admitted to the Johns Hopkins Hospital Oct. 10, 1901, complained of bladder trouble, indigestion, and nervousness. The menopause occurred four months previously. As a child the patient had measles and diphtheria She had pneumonia when 18 and suffered with neuralgia and headaches. Six years previously she had an infection of the middle ear from her throat and the ear drum ruptured and drained freely. Hearing had been impaired since and she had occasional attacks of earache. She had hay fever every summer for years.

Four years ago, or in July, 1897, she first had bladder trouble as a frequency of voiding with intense pain, and the urine contained blood and mucus for several days. The pain and frequency lasted three months.

In the following four years she had had about two attacks a year usually lasting about two weeks. In January, 1901 she was confined to her room for one week with an attack and since then had constantly felt that an attack was impending. Her present attack came on five weeks prior to admission It began with intense pain which prevented sleep. The pain was more severe on voiding. She passed some blood.

Examination revealed a normal bladder and a severe urethritis located in the inner third of the urethra.

A few treatments resulted in an apparently perfect cure.

She was again admitted to the Johns Hopkins Hospita March 14, 1910. After leaving the hospital in 1901 the patient was free from urinary symptoms for two years. Her symptoms of frequency and pain then began and for two years she had occasional loss of control of the urine. In 1905 she had a severe attack of typhoid fever with a long, slow convalescence, and now for five years she has had almost constant bladder trouble. For the past year her symptoms have been worse and she generally wears a napkin because of complete incontinence.

I examined the patient March 16, 1910, and found a specimen of urine drawn by the catheter clear. After applying 10 per cent. cocain solution and placing the patient in the knee breast posture the urethra was first sounded with a 5 mm Hegar dilator. This broke down what felt like a soft scar tissue obstruction at or near the internal urethral orifice. No further obstruction was felt in dilating up to a 10 mm. Hegar dilator.

The bladder was normal, but the urine settled in the vertex was bloody. This blood was found to be flowing from the anterior aspect of the internal sphincter region, probably from the obstruction felt to give way under the No. 5 Hegar.

The patient improved rapidly under the treatment by dilatation and applications of 3 per cent. silver solution.

After three weeks she complained of an attack of sore throat and examination showed enlarged and inflamed tonsils. These were partially removed with the tonsillotome April 22, and the patient was soon discharged. In answer to a letter in November she wrote in part as follows: "I am stronger than when I went to the hospital last March, but the bladder trouble is no better; in fact, it is so bad I very seldom leave home. I cannot see that the removal of the tonsils has helped me at all. I have just as much rheumatism and sneeze very much each day; in fact, more than I ever did."

If my theory is tenable this is just the result one would expect from partial removal of the tonsils by the tonsillotome The patient's reference to the persistent sneezing and her "nasal" method of talking make me think that she has paranasal sinus infection as well and she has been advised to return for more complete attention to the tonsils and air passages.

Case 4.—Miss H., aged 26, consulted me July 14, 1910. For about three years the patient had had bladder symptoms more or less constant, but exaggerated with overexertion, and particularly on damp days. When at its worst there was almost a constant desire to void. She did not consider the distress a pain nor a severe burning, but said it was more of a nagging. For the previous five or six months there had been a peculiar tired feeling in the right pelvis and the patient worried for fear that some serious condition was developing.

The patient had quinsy twice as a child and she was bothered a great deal with her throat. She had a severe attack of quinsy last winter and after four days the abscess ruptured. She has not had rheumatism. Examination of the heart revealed a soft systolic murmur over the mitral region and an accentuated second sound at the base. Both tonsils were enlarged. The bladder urine was normal. The urethra was very tender on introduction of the catheter and on examination it was found to be granular and reddened throughout its length.

The urethra was dilated and swabbed with 3 per cent. silver solution July 14 and July 21. The patient was sent to Dr. Sanger, who removed the tonsils early in August. He reported the right tonsil as badly diseased. Two weeks after the tonsillectomy I found the urethral mucosa less tender and less inflamed. I gave the third treatment and the patient left the city to take a position as school teacher. I have heard indirectly that she is greatly improved in health, and as the urethra seemed to be the only point of complaint I conclude that this must be improved.

SUMMARY OF CASES

To review the evidence briefly in these four cases:

In Case 1, the patient, as long as she could remember, had a tendency to "catch cold" easily and had to avoid drafts. She had an attack of acute inflammatory rheumatism involving the joints of the left side seventeen years previously. For eight years she had had attacks of bladder trouble and abdominal discomfort which for the previous two years had kept her in almost constant agony and had often kept her housed because of the inability to control the urine. Five months of regular treatment about once a week had made but little impression on her urethral and reflex abdominal symptoms. After the tonsils were removed three treatments in the next two months resulted in a cessation of practically all her symptoms and she often retained the urine an entire day. This cure has lasted for fourteen months.

In Case 2 the patient had had constant bladder symptoms for over two years, the disturbed nights and diurnal irritation making of her almost a nervous wreck. Bladder and urethral treatments had been without permanent effect. Treatment of the urethra for six weeks while she was in bed resulted in an apparent cure, but one week after leaving the hospital the symptoms returned and the urethra looked as inflamed as ever. Months of treatment, with the patient boarding in the city and having almost complete rest, gave occasional periods of one to two weeks of improvement in the symptoms. After the tonsils were removed there was ~~one~~ inflamed area in the base of the right tonsil region which for seven months gave occasional exacerbations of sore throat accompanied by pain and tenderness in the knee-joints and an exaggeration of the urethral symptoms. For the four months following treatment the patient's throat gave but few symptoms and the urethra was well as regards symptoms and appearance. After the tonsil operation the patient took a position as matron of a woman's dispensary, her duties ranging from bookkeeper to scrub woman, so that her improved health cannot be ascribed in any way to opportunities for rest.

In Case 3, when first admitted to the hospital in 1901 the patient had been suffering for four years with recurring attacks of bladder trouble. A few treatments of the urethra gave complete relief. For two years she had approximate health and then for seven years her bladder trouble had been growing worse until she had to depend permanently on a pad for catching the urine. Again a few urethral treatments seemed to relieve her condition perfectly. Her tonsils were then shaved off with a tonsillotome and within a few weeks her symptoms became as bad as ever.

In Case 4 the patient had complained of bladder trouble for three years and gave a clear history of tonsillar trouble since childhood, with three attacks of quinsy. In her case the tonsils were removed after two urethral treatments, so that we have not the striking demonstration, as in the other three cases, of the futility of urethral treatments while the tonsils remain.

I realize that these four cases of chronic urethritis are too few in number and of too recent occurrence to serve as a basis for reliable conclusions. The evidence here set forth, however, is sufficient to warrant a more careful study of our chronic urethritis cases, for if we can relieve permanently only a small proportion of these chronic sufferers by a comparatively simple operation, we will have made an important advance in therapeutics.

Since I have been on the lookout for these cases I have added seven others to my list which probably belong to this class. Some of the patients have been under my care intermittently for several years and it is only because they have chanced to return during the past few months that they are mentioned in this report.

Two are worthy of an extended report.

Case 5.—Mrs. M., of St. Paul, telephoned me from New York in September of this year asking for an office appointment, stating that she had been my patient three years ago. On looking up her history I made a mental prediction that diseased tonsils would be found on another examination.

The history taken on her first visit in May, 1907, was as follows: About June, 1906, the patient developed rheumatism in the right knee, for which she went to Mount Clemens, and while under treatment there the trouble involved the joints of the right hand and the third finger of the left hand. About this same time she began to have "bladder trouble." This developed gradually as a scalding or burning, which was more likely to come on ten or fifteen minutes after voiding, and which she thought was in the urethra rather than in the bladder. She had no trouble at night; the aggravation had been more persistent for the last four months, occurring every day or every other day and preventing her from walking or taking much exercise. On further inquiry regarding her rheumatism she said that in 1891 she had rheumatism in the right shoulder and arm and in 1903 she was at the French Lick Springs for rheumatism in the right knee. When she first consulted me she had just spent six weeks at the Arkansas Hot Springs for rheumatism in her hands.

The urine on examination at this first visit was normal; the bladder was somewhat reddened about the trigonum, and the urethra was narrowed and showed a granular red mucosa throughout its length. I made a diagnosis of chronic granular urethritis of rheumatic origin. After two treatments consisting in the dilatation of the urethra and the application of 3 per cent. silver solution on the first visit and of the 6 per cent. silver solution on the second visit, the patient was obliged to return home. I sent instructions to her physician in St. Paul concerning further treatment.

On her return in September, 1910, the patient stated that she had been fairly well and had taken no further treatment. She had recently had considerable anxiety, was in bad physical condition and her urethral trouble had returned. I examined the urethra through the Kelly cystoscope without first disturbing it with the Hegar dilators, and found that the granular redness was confined to the urethral sphincter and to the mucosa of the inner third of the urethra. In view of my recent experience I quizzed her more closely and found that she had her first bladder symptoms when 16 years of age; that she often had a sore throat as a child, but did not remember having tonsillitis. This past winter she had considerable "rheumatic sore throat." I examined her throat and found much congestion about the fauces; the tonsils were considerably enlarged and had deep crypts over the surface, these being free from white deposits at the time of my examination.

I sent her to a laryngologist who considered that her tonsils were undoubtedly a causative factor in the rheumatism.

CASE 6.—Mrs. R., aged 32, mother of three children, the youngest 4 years old, was referred by Dr. Gaver of Mount Airy and admitted to the Church Home in June, 1909. She had had bladder trouble for the previous three years with only brief intervals of freedom from pain. At times she had been in bed a week because of agonizing pain. There had also been pain in the right flank region and the patient was then wearing a plaster because of the pain and weakness in this region. I first thought, on taking her history in my office, that she probably had tuberculosis of the right kidney. The urine catheterized from the bladder contained many epithelial cells, leukocytes and red blood-corpuscles. Examination for tubercle bacilli was negative, but the urine contained many cocci, some arranged in pairs, suggestive of gonococci; none could be found, however, in the pus-cells. After a day of rest in the hospital cystoscopy was done and the urethra was dilated with difficulty, there being a stricture about half way in and another at the internal orifice. The trigonum was of a deep red hue and apparently swollen; the bladder mucosa was everywhere traversed by congested vessels. Both ureteral orifices were red but neither showed particular evidence of disease. The right ureter was catheterized with a No. 5 wax-tipped bougie, which returned without scratch-marks. The urine from the right kidney was normal. After a few days' observation I made a diagnosis of appendicitis and a large congested appendix was removed. During four weeks in the hospital the patient received treatment for her cystitis and the urine became normal.

I have given this patient many urethral treatments in the eighteen months previous to this report. The stricture at the inner orifice still persists and she still had occasional attacks of urethral symptoms accompanied by granular reddening of the mucosa.

The patient had her tonsils removed about 1907 but she did not remember the chronologic sequence of her bladder and tonsillar trouble. She still has considerable throat trouble and examination shows a mass of tonsillar tissue on the right side.

The possible relationship between tonsillitis and ureteritis has been brought to my attention only recently, the two patients possibly belonging to this class still being under observation and only one of them having had her tonsils removed.

In September, 1910, Dr. Herman F. Derge of Eau Claire, Wis., sent me a patient 26 years old, who had the following history:

CASE 7.—Six or seven years previously the patient had an attack of pneumonia, which was followed by tonsillitis and rheumatism. At that time her tonsils were treated with the cautery. Soon after this she began to have attacks of pain in the left flank region. At first these attacks occurred every two or three months and the patient would lie down and flex the left leg for an hour or two until the attack disappeared. Her attacks gradually became worse, but she never had any nausea or vomiting with the attacks until the spring of 1910.

In February, 1910, she had an attack of tonsillitis and rheumatism, followed by similar attacks in March and April. After this the attacks of pain in her side became much more severe and were accompanied by nausea and vomiting. Dr. Derge wrote me in August that he had had the patient under observation in the hospital for four weeks, and said: "During this time her temperature has always been normal and the pulse has ranged between 72 and 96. For the first three weeks the urine contained constantly 1 gm. of albumin, pus cells, some red blood-corpuscles and a small rather thick bacillus. On two separate occasions I have examined the urine for tubercle bacilli but have found none. I have also cystoscoped her twice and on each occasion failed to get a catheter into the left ureter. The bladder itself looks perfectly normal and she has had no vesical symptoms. For the past week the urine has looked perfectly normal, there being neither albumin nor pus cells present and she excretes on an average 2 liters a day. Yesterday she had another attack of pain in the left side, was nauseated and vomited."

On her arrival in Baltimore the patient looked exceedingly ill. She had been having an attack the previous night, with much nausea and vomiting. I found a mass in the left kidney region projecting about 4 cm. below the costal margin. This was very tender and on palpation of the pelvic brim in the region of the ureter considerable pain was caused. Urine catheterized from the bladder was acid, showed a specific gravity of 1028 and contained a slight amount, about 0.1 per cent. of albumin. The microscope showed many epithelial cells and an occasional red blood-corpuscle. Three good radiographs of the kidney, ureter, and vesical regions, respectively, were negative.

After a few days' rest in bed, with frequent injections o morphin to control her pain, I made an unsuccessful attempt to catheterize her left ureter. Nine days after her arrival Dr. Sanger removed her tonsils and about ten days later I again failed to catheterize the ureter.

For two weeks after the removal of the tonsils the patien had about the same symptoms in the kidney region, th attacks being more severe if anything. After this the attack seemed to be less frequent and decidedly less severe, the patien was allowed to take walks and drives and go to the theater thus leading about a normal life, and her attacks of pai which occurred every two or three days were aborted wit one injection of ¼ grain of morphin, whereas her forme attacks had required from one to three ¼-grain injections.

Of course one cannot expect a disappearance of the sca tissue involving the ureter after the removal of the tonsils an I should explain the improvement in her condition as due t the removal of the toxins which had caused the repeate inflammatory attacks in the ureteral mucosa.

After waiting two months and being unable to dilate th stricture from the bladder end I operated to dilate the stricture from above. Through a left rectus incision the peritoneum was pushed medianward until the ovarian vessels an ureter were found running parallel in the peritoneum. Thi exposed the iliac vessels on the pelvic brim and the roun ligament covered with peritoneum near its entry to th internal ring. It also gave excellent exposure of the bladde By blunt finger dissection the ureter was easily followed dow to the point where it ran under the uterine vessels. A poin was selected on the ureter low enough down so that in cas the stricture could not be dilated the ureter could be cu across and implanted into the bladder. At this point, abou 5 cm. above the crossing of the uterine vessels, the urete was opened lengthwise and I had no trouble in passing gum elastic filiforms, and finally a large follower 7 mm. in diamete into the bladder. A renal catheter was then passed into th bladder and its distal end was passed almost up to the kidney The ureter was closed with fine catgut and a small finge drain was carried down into the ureter wound. After th closure of the abdominal wound the table was elevated an through a Kelly cystoscope the pointed end of the rena catheter which had been passed into the bladder was located grasped with the alligator forceps and drawn out through th urethra. The pointed end was cut off and the catheter wa fastened to the thigh by adhesive strap and through thi catheter the kidney was irrigated three times a day for fiv days with 1-10,000 silver nitrate solution. The bladder wa given a similar irrigation once a day.

Three weeks after the operation the patient was walking about the hospital. She had no sign or symptom of returning trouble in the left kidney. A suggestive feature in this case, as in case of urethritis, was that she had a sore throat and hoarseness after each attempt to catheterize the ureter, such treatment being followed by my routine swabbing of the urethra with 3 per cent. silver solution.

CASE 8.—The second case of stricture of the ureter was that of a colored woman, aged 48, who had been under my care in the cystoscopic dispensary for several weeks. She began to have bladder trouble in May, 1910. She complained of a frequency and burning and thought she had caught cold in the bladder. For two years she had had mild attacks of pain in the right kidney region. These occurred from one to three weeks apart and she had no discomfort in the side between the attacks. Since the bladder trouble began in May she thought that the attacks of pain in the side had been more frequent and more severe.

About the same time that the pain began in the side she had a bad attack of inflammatory rheumatism in the left knee. This lasted all winter. Off and on for three or four winters she had rheumatism under the left shoulder blade and in the cervical vertebræ, this at times keeping her from work. She noticed for two years previously that she caught cold very easily and had a sore throat even in the summer time.

Examination of the urine catheterized from the bladder showed a moderate number of pus-cells. The right ureteral orifice was slightly inflamed, presenting such a picture as one sometimes observes when a stone lies low in the ureter. On four different weekly visits I attempted to pass a wax-tipped catheter to the right kidney, being successful only on the second visit. The wax tip returned without scratch marks. On injection of the kidney pelvis her pain-phenomena in the right kidney region were imitated. The pelvis was but slightly dilated, holding but 12 c.c. of fluid. The point of obstruction to the renal catheter was located about 3 cm. from the bladder orifice of the ureter. *X*-ray examination of this region was negative.

The patient's tonsils were both considerably enlarged and she has promised to have them removed.

On meeting a stricture in the ureter and looking for the cause one thinks, in the order of their frequency, of stone, tuberculosis, gonorrheal infection, and then of pelvic inflammatory disease, appendicitis, and pelvic or abdominal tumors. We sometimes meet an obstruction to the catheter which is not met on another occasion and we conclude that the obstruction was probably peristaltic in character. Some obstructions are probably caused by unusual kinks in the ureter following inflammatory displacements. Most of the ureteral stricture or obstruction causes, such a stone, tuberculosis, and periureteral tumors, are easily differentiated. There are not a few strictures about the lower end of the ureter for which we have been unable to find an etiologic factor. I have been inclined to think that some of these may represent a healed focus of tuberculosis, some an infiltration of scar tissue about a stone which has later been dislodged and passed, and a more probable supposition to my mind has been that a gonorrheal infection of the bladder may have resulted in infectious material or toxins being carried in the periureteral lymphatics, causing a focus of inflammation in the ureter near the bladder. I have not been able to prove any of these suppositions in the case of ureteral strictures, but I am inclined to believe that this newer theory of tonsillar infections or toxins giving rise to ureteral stricture may be found to apply to some cases for the causation of which we would otherwise be in the dark. The futility of treatment by dilatation in such cases without removal of the tonsils is apparent.

I am not familiar with male genito-urinary work, but am told that many cases of chronic urethritis, trigonitis, inflammation of the verumontanum and other portions of the posterior tract cannot be traced to a gonorrheal infection. Dr. Geraghty of the Johns Hopkins Hospital tells me that he has seen cases of acute prostatitis with abscess formation which followed during or immediately after a tonsillitis. With such facts in hand it seems not improbable that some cases of chronic urethritis associated with chronic prostatitis may have their origin from tonsillar infections or toxins.

2305 St. Paul Street.

TWO CASES OF HUNTINGTON'S CHOREA WITH SPINAL FLUID FINDINGS

W. F. LORENZ, M.D.
MENDOTA, WIS.

Chronic progressive chorea associated with mental enfeeblement occurring during adult life, first fully described by Huntington in 1872, seems far more prevalent in the Middle West than in the East. There were but two cases of this type among the 2,436 admissions to Manhattan State Hospital[1] during 1909 and 1910. If this can be taken as an indication of the prevalency of Huntington's chorea in the East, it will be seen that it is quite low when compared to the number admitted at Kankakee, Illinois, and the Wisconsin State Hospital during the same period. The combined admission rate of these two last-named hospitals approximately equals that of the Manhattan State Hospital. At Kankakee there were two patients admitted[2] and five at the Wisconsin State Hospital. It will also be recalled that Hamilton's[3] twenty-seven cases were all taken from the Middle West.

The following two cases seem especially worthy of report in that the hereditary transmission, mental involvement and well marked chorea offer a picture classical of this disorder.

CASE 1.—J. R., male, farmer, widower, was admitted to the Wisconsin State Hospital Oct. 15, 1910.

Family History.—The family history showed the maternal grandmother to have been choreic, although nothing definite as to mental symptoms could be obtained. Her death occurred at 56 and the cause given was "nervous trouble." The other grandparents died of old age. The patient's mother was admitted to this hospital in 1891, suffering from chorea and was described as being "demented." She was transferred to a county hospital where she died. The father died at 67 of "paralysis." There were eight children, of whom the patient was the oldest of five brothers. Two sisters died in infancy of unknown cause. The sister living is said to have chorea, which developed after childbirth, and is a patient at a state hospital in Washington. The youngest brother is said to be "nervous."

Personal History and Present Illness.—The patient was born June 12, 1869. Nothing of note occurred in his early life. He attended a country school and was thought to be unusually bright. After leaving school, he worked on a farm; married in 1900; wife died of typhoid fever in 1907; one child, a girl, at present 9 years old, is normal.

In 1904, twitchings were first noticed, although neither the brother nor the patient know what part first became involved. They described the twitchings as being general. These twitchings gradually became more pronounced, yet the patient continued at his work as a farmer, and was said to have been industrious and thoroughly capable. No mental symptoms were noticed until about one week previous to admission, when on returning from the field where he had been working, the patient complained bitterly that some one had strewn blood all about the field. He was very excitable and soon complained that he was covered with blood; that some one was dragging bloody ropes about the room. He became very much frightened, tried to lock himself in a room and began crying out at the top of his voice. He was sent to a jail where he remained two days, and then transferred to the state hospital at Mendota.

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[1] Communication from Dr. George H. Kirby, Director of Clinical Psychiatry, Manhattan State Hospital, New York.

[2] Communication from Dr. Frank P. Norbury, Superintendent, Kankakee State Hospital, Illinois.

[3] Hamilton, A. S.: Am. Jour. Insanity, lxv, 3

On admission the patient was in a very apprehensive state, shouting almost continually, "Take them away. They are trying to kill me," etc. He pressed himself against the wall of the room, and when approached would strike out blindly. This apprehensive excitement, with very evident hallucinosis, subsided after forty-eight hours and the patient gradually became accessible. The auditory hallucinations were now readily spoken of by the patient, and continued another four days, gradually becoming less and less marked. During this time he complained that the "voices" threatened to kill him and several times he asked the examiner when he was to be executed. Within ten days after admission, the hallucinosis had entirely disappeared and the patient became readily accessible for both mental and physical examination.

Mental Symptom-Complex.—A vivid auditory and visual hallucinosis, accompanied by marked apprehension lasted for five days, and auditory hallucinations persisted for another four days (threatening voices). On return to a quiet state there was a definite amnesia for the delirious episode, with a mild intellectual deterioration, poor memory for dates and poor retention, but good insight for the hallucinosis.

Physical Symptoms.—The most striking features were the gait, the choreic movements and the very peculiar facial expression. The patient was of swarthy type, height 5 feet 6 inches, weight 150 pounds, hair slightly tinged with gray, no physical stigmata of degeneration. The chorea was general; the movements were rather slow and deliberate, though quite extensive, as if the muscles involved had acted to their full extent. All the muscles of expression showed this condition—the occipito-frontalis especially: the lips were alternately drawn back and then puckered, drawn to one side and then the other. There was a constant clicking of the tongue; the mouth opened and closed; the eyes could not be held steadily in one position, but moved slowly from one side to the other. The subptosis lent a very peculiar expression to them, as if the individual were intoxicated. There was present a persistent, irregular, spasmodic cough, with almost constant moaning and groaning. The arms and shoulders swayed about, the hands opening, closing and twisting; the trunk swayed forward, backward and to the side. In station, one leg would suddenly shuffle forward, to the side or backward; the gait was a peculiar skipping, swaying, dance-like activity. The toes were seen to flex, extend and spread themselves. The patient could hold a pencil and would attempt to write, although the specimen was hardly legible. While making this effort, the movements of the other parts seemed exaggerated. The muscles were well developed, powerful and firm, with a very noticeable increase of tone. The superficial reflexes were all active; the deep, very decidedly exaggerated. The pupils were equal and active to both light and accommodation. The speech was at all times very harsh, thick and interrupted by spasmodic cough; at times completely aphonic. No sensory disturbances could be made out. The pulse was irregular; at times seemed to pause, followed by a number of slighter pulsations in rapid order, until again assuming its regular rhythm. This would occur four or five times in a minute. The patient sometimes experienced difficulty in starting the act of urination. Deglutition was interfered with. During sleep the movements ceased, although they recurred immediately on awakening.

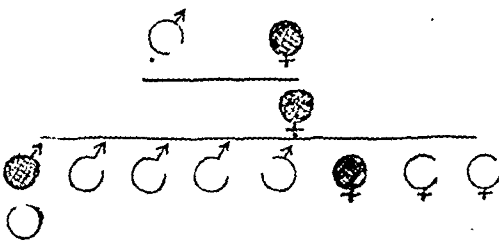
Case 2.—W. P., male, single, farmer, admitted to the Wisconsin State Hospital Oct. 28, 1910.

Family History.—The paternal grandfather suffered from chorea, and was said to have been mentally afflicted, though never committed. Of four boys and two girls in the succeeding generation, the oldest (father of the patient) developed chorea at the age of 55, became very forgetful and simple, and died of a strangulated hernia at 60. The youngest of these brothers developed chorea at about 50, became insane and died in an asylum. The next succeeding generation, that of the patient, comprised four boys, of whom the patient was the oldest, and one girl. Of these the patient was the only one thus far who showed symptoms of chorea, although the youngest brother, aged 32, was said to be decidedly nervous.

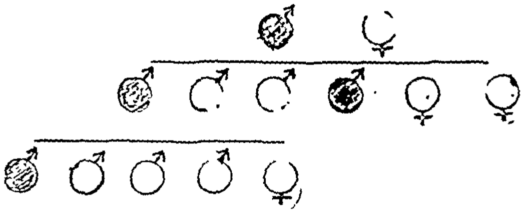
Personal History and Present Illness.—The patient was born in 1855. Nothing abnormal occurred during infancy or childhood and he was said to have been of average intelligence, getting along very well at school. He began farming at about 20 and continued at this until the onset of his mental symptoms. At the age of 7 he developed an abscess of the right leg, which discharged slightly though persistently for fifteen years. He was always very temperate in his habits and never had any venereal infection.

At the age of 38, mental failure was first noticed. This was in the nature of sudden outbursts of anger and a change in the patient's disposition. He was described as having become "preoccupied." This became more noticeable, and his memory was said to have become poor during the succeeding five or six years. The patient also began expressing peculiar ideas concerning his financial status; expressed himself as wishing to get rich quickly, laying great stress on a rather simple and not very serviceable combination garden tool, which he invented. He maintained that, if this could be properly exploited, it would result in great wealth, and he became very angry with his relatives when they interfered with his attempt to sell his property in order to capitalize this venture. He also had very unpractical ideas concerning the development and sale of real estate; would collect and answer every advertisement he could get hold of; finally became so irritable that he could no longer be taken care of at home. About five years previous to admission, at the age of 50, the motor symptoms first became noticeable. These were described as a "jerkiness," at first involving the hands and arms, gradually becoming more marked and general. During the last two years before admission the mental dulness became very pronounced.

Hereditary Transmission in Case 1.



Hereditary Transmission in Case 2.



Mental Symptom-Complex.—A general mental deterioration; gross memory defects; very meager knowledge of the events of the last five or ten years; retention *nil;* mildly euphoric; a few absurdly expansive ideas concerning personal capabilities; no insight.

Physical Symptoms.—The face presented a very peculiar, sleepy appearance without sign of emotion. The chorea was very noticeable, involving the muscles of the neck, shoulders, arms and hands mostly. The head was extended backward, or bowed forward, or either of these combined with rotation or lateral movement. The mouth was drawn to one side or the other, the shoulders hunched frequently and equally, together or alone. The arms moved forward or backward, forearms flexed and the fingers moved about. All of these movements were quite slow and of irregular frequency, although rarely was there any part unaffected. The legs showed relatively little, save when walking, when the gait was a peculiar, straddling, shuffling, swaying locomotion. The muscles were well developed, firm and of a good tone. The eyes were unaffected; pupils equal and active to both light and accommodation. A slight peripheral arteriosclerosis was present; pulse regular; soft systolic murmur at the apex. Superficial reflexes were all active and the deep were markedly increased. Speech was very thick and difficult to understand. Writing was impossible. Movements ceased during sleep.

Lumbar Puncture.—Spinal fluid examinations were made in both cases, and are interesting in that both were negative, cytologically and chemically. The method of examination employed was that used by Dr. Bybee and myself in a series of spinal fluid examinations recently reported.[4]

Results of the Examination of Cerebrospinal Fluid

	Case 1	Case 2
Cells per cu. mm.	4	1
Small leukocytes	78 per cent.	76 per cent.
Plasma cells	16 per cent.	14 per cent.
Large lymphocytes	3 per cent.	2 per cent.
Polymorphonuclear leukocytes	1 per cent.	8 per cent.
Endothelial cells	0 per cent.	0 per cent.
Degenerate cells	2 per cent.	0 per cent.
Nonne and Appelt's, first phase	Faint.	Faint.
Nonne and Appelt's, second phase	Negative.	Negative.
Noguchi's butyric acid test	Negative.	Negative.
Reaction to Fehling's solution	Reduction.	Reduction.

These negative findings are especially interesting in view of the difference of opinion held as to the pathologic condition present in these cases. Certain observers have viewed the condition as an inflammatory lesion of the cortex and meninges, some going so far as to associate it with general paralysis. On the other hand, more recent writers have contended that the condition is one of neuroglia proliferation. In the case with autopsy findings reported by Rusk[5] the author favors the latter contention. It would seem to me that the negative pleocytosis found in the above cases would also tend to rule out the presence of an inflammatory condition of the cortex or meninges. Dunlap's[6] report and that of Raecke[7] agree as to the absences of an inflammatory condition.

A glance at the genealogic charts will show that the hereditary transmission in Case 1 occurred through the female members of the family until the patient's generation, while in Case 2 it was through the male members and the males were alone affected.

It will be observed that these two cases vary considerably in the mental symptoms which were present. Case 1 showed, I believe, the "confusional hallucinatory delirium" spoken of by Brower and Bannister,[8] also agreeing in many respects with the delirium, occurring in these cases, described by Clouston[9] many years ago. Both cases show a marked memory defect, although in Case 2 the mental enfeeblement is more general and more marked. This latter case likewise shows the expansive delusional formation spoken of by Osler[10] and others.

Voluntary effort had no effect on the movements in Case 2, although here so much mental dilapidation is present that very likely this effort was not made, or at least not sustained. In Case 1, the movements were momentarily controlled in that part in which volition was exerted, although at the expense of the other parts. This was observed by Hamilton[3] to occur frequently, and was evident in Case 1, when he attempted to write. The patient exerted himself to the extent that a noticeable perspiration occurred on his forehead and called forth the remark from him: "Gosh, Doc, this makes me sweat."

The hypertonicity of the muscles noticed in Hamilton's[3] cases was present to a considerable degree in Case 1 and appreciably so in the upper extremities of Case 2.

No precipitating cause was obtainable. Alcohol and syphilis were denied in both cases. One rather interesting fact is that the grandparents in both cases were said to have been natives of New York State.

In order of occurrence of mental and motor symptoms, Patient 1 showed a chorea for approximately five years before noticeable mental symptoms occurred, while, on the other hand, Patient 2 showed mental symptoms twelve years before the motor became manifest. In both cases the informants were able to give reliable information.

In conclusion I wish to express my indebtedness to Dr. Charles Gorst, superintendent of the Wisconsin State Hospital, for permitting the report of these two cases.

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[4] Bybee and Lorenz: Arch. Int. Med., January, 1911.
[5] Rusk, G. Y.: Am. Jour. Insanity, lvi, No. 1.
[6] Dunlap, Charles B.: State Hosp. Bull., December, 1910, p. 417.
[7] Raecke: Arch. f. Psych. u. Nervenh., 1909, xlvi, Part II.
[8] Brower and Bannister: Practical Manual of Insanity, published 1902.
[9] Clouston, T. S.: Clinical Lectures on Mental Diseases, published 1884.
[10] Osler's Modern Medicine, published 1910.

TRAUMATIC PSYCHOSES AND POST-TRAUMATIC PSYCHOPATHIC STATES

BERNARD GLUECK, M.D.
Junior Physician, Government Hospital for the Insane
WASHINGTON, D. C.

Various authors have attempted to establish a distinct clinical entity which could be termed traumatic psychosis, but a review of the cases reported in the literature shows that as yet we have not succeeded in attributing a distinct symptom-complex to this form of mental disorder. The only justification for grouping these cases under the heading of traumatic psychoses is their common etiologic factor, namely, trauma to the head. The degree and kind of injury are factors of some importance, and, as a general rule, only those injuries which produce an extensive, diffuse shaking up or shattering of the brain tissue, such as occurs in concussions or those which produce extensive pressure on the brain, will be followed by mental disturbances. A well-localized and circumscribed trauma to the brain is rarely followed by psychotic manifestations.

The general symptomatology of these cases varies greatly both in the time of occurrence and in the characteristic manifestations. The course of the disorder is also very variable, and it behooves one to be careful in rendering a prognosis in these cases. The cases which I am about to report in this paper have been selected because they illustrate the various forms and the variety of courses that this disease can take.

Kraepelin[1] in his work on psychiatry recognizes two forms of disturbance following trauma to the head, namely, a traumatic delirium and a traumatic feeblemindedness. His description of traumatic delirium does not vary very much from other delirious states, and simulates more the Korsakow's psychosis than any other mental disorder. This view is also shared by Calberlah,[2] who states that all these patients show the retrospective falsifications of memory and "confabulations"[3] so frequently seen in Korsakow's psychosis. This view, however, is denied by other writers on the subject and, as will be seen later, some of my cases showed nothing of this symptomatology.

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[1] Kraepelin: Psychiatrie, eighth edition.
[2] Calberlah: Arch. f. Psychiat., xxxviii.
[3] This word is used by W. A. White in his Outlines of Psychiatry, by Paton in his Psychiatry, and by others, in the sense of the narration, without intent to deceive, of fictitious experiences, in the truth of which the narrator fully believes.

According to Kraepelin, the immediate results following concussion are a more or less complete clouding of consciousness. The patients are sleepy, drowsy, forgetful, dull and distracted. After these symptoms pass away, a marked impairment of memory might be noticed. In the more severe cases, complete unconsciousness may take place, which may persist only for a very short time, or for hours or even for days. On awakening, the patients remain thoughtless and clouded, show a marked disturbance of the perception sphere, especially in observing the finer points. Because of this, the patients are unable to obtain a clear conception of the impressions and events of their immediate surroundings; they may be aware of being in a hospital, but do not know its nature or have any idea of how they came there or why they should be there; they fail to recognize the people about them, and suffer from a confusion of identities. They do not notice the individual characteristics of the various people about them. Here and there a patient may develop disturbances of the sensorium, particularly visual hallucinations. Delusions of a depressive nature have also been seen in some cases. The patients have no insight into their condition and cannot understand why they are kept in the hospital, as there is nothing wrong with them. The perception disorders may simulate in many ways those of Korsakow's psychosis, in that the patients "confabulate" and suffer from marked retrospective falsifications of memory.

These patients have no recollection, or only a very faint one, of the accident, sometimes absolutely denying its occurrence, or they describe it differently at different times. The retrospective falsifications of memory which are observed mostly cover only a short period immediately preceding the accident. Here and there, however, these falsifications may cover a longer period, even years preceding the accident. These lapses of memory as a rule correct themselves almost completely, later on. This is perhaps due in part to the assistance of the information derived from friends. While the memory for remote events is, as a rule, retained, recent and immediate events are usually forgotten. The patient is unable to repeat short stories immediately after reading them, does not recall the names of those about him, does not know whether he ever saw them before, has no idea how he came to be in his present situation; in short, cannot recollect events of the most recent occurrence. At the same time, various falsifications of memory begin to make their appearance, either a mixture of truth and fiction, or wholly new fabrications.

These can be stirred up and influenced by persuasion. However, wholly fantastic and adventurous tales can be brought forth by these patients to which they hold very tenaciously. At times one can detect in these tales, which are usually described with the utmost minuteness, fragments of actual occurrences; others remind one of delirious or dream-state experiences.

Concerning time, these patients find themselves mostly in the dark. Above all, they are unable to give, themselves, clear account of the length of time which has elapsed since the occurrence of particular recent events; they do not know how long they have been in the hospital nor how long they have been under treatment, when they had visitors or when they saw the physician last. Heilbronner[4] showed that there exists a special tendency to set recent occurrences further back. Along with these, they are unable to orient themselves temporally, successively, for any length of time.

The mental activities of the patients are, as a rule, rendered considerably defective. They are distractible, can exercise their mental faculties only with the greatest difficulty, solve ordinary arithmetical problems very poorly, are unable to form a correct opinion of their condition or of occurrences in their environment. They apprehend badly, lose the trend of a conversation readily, and cannot apply themselves to any subject for any length of time. Later on, they develop a highly egotistic and very irritable disposition, are fault-finding, easily angered, and have outbursts of violent temper. Their affect tone fluctuates to a great extent; now they are elated, jolly and happy; now depressed and lacrimose. Disturbances of speech and writing also occur. They have difficulty in finding suitable words for expressing their ideas, have a tendency to form neologisms. Asymbolia and parapractic disturbances are also noticed.

The above kaleidoscopic description by Kraepelin is not, however, seen very frequently. Head injuries may be followed by no untoward, immediate symptoms. The patient may not even lose consciousness, but walk to his home and apparently not be the worse for the experience, until later—sometimes weeks and even months later—he begins to show a very noticeable change in his psychic total. His entire mental make-up changes, he becomes easily tired, is incapable of any prolonged mental effort, is forgetful, irritable and distractible. He complains of vertigo, pressure sensations in the head, migraine, noises in the ears; he experiences a sort of general benumbed feeling and shows a marked tendency to outbreaks of violent temper on the least provocation. He acquires great intolerance for alcoholic beverages; the slightest indulgence causes him to become intoxicated; he reacts in an extraordinarily severe manner to alcoholic stimuli. To this may be added epileptiform seizures, fainting attacks, and rarely, dream-states which may follow later.

Ziehen,[5] while in the main agreeing with Kraepelin, has gone a step further, in that he arbitrarily divides the traumatic psychoses into three forms: a primary and a secondary traumatic psychosis and a post-traumatic psychopathic constitution. The primary form follows immediately after the injury or after a short interim. This latent period may be as long as a week. If a prolonged coma follows the injury, the patient may emerge from same in a delirious state. The disease picture is characterized by numerous hallucinations, disorientation, incoherence, coordination disturbances, insane excitements and anxiety affects. At times it corresponds to the picture of a dream-state, then again, to that of an acute paranoia hallucinatoria. The gait simulates that of a drunken person and often feverish movements are present, even when no complication of meningitis or focal lesion exists. Intercurrent somnolence is not rare. Along with the marked association disturbances, severe memory defects are also found. These usually persist even after the acute symptoms pass over. The behavior of the patients is also changed and assumes a more or less characteristic coloring. They may develop catatonic states with severe impulsive outbreaks of violence and an aimless wandering back and forth. Recovery often follows and these acute disturbances may completely pass over. Other cases, however, may develop on top of these acute disturbances, a chronic psychic changed personality, thus merging into the secondary traumatic psychosis.

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[4] Heilbronner: München. med. Wchnschr., 1905, p. 50.
[5] Ziehen: Psychiatrie, second edition.

These belong in most instances to the defect psychoses and are characterized by gradual deterioration, the gradual development of a defective intelligence. We therefore speak also of a traumatic dementia, or feeblemindedness. Frequently this dementia may be mistaken for paresis, because of the physical disturbances which may accompany it. These patients may have various paralyses and incoordinations of movement and speech. Indeed, even on section, the brain may simulate closely that of paresis. In most instances this dementia remains stationary after reaching a certain point, and aside from a moderate weakness of judgment, a diminished capability for complex and especially for abstract conceptions, and a loss of the more intricate affect tones, the patients remain fairly normal.

In his last group Ziehen places cases of those who develop a so-called psychopathic constitution; that is, a well-defined distinct psychosis is wanting, but a careful comparison of the individual's mentality before and after the accident will reveal definite changes in his psyche. Those who knew the individual before the injury will invariably notice that he is more irritable, oppressed and very cyclothymic. He becomes easily tired mentally, evidences a loss of interest in things in general, lacks in quickness of judgment and foresight and shows a diminished capacity for mental productivity. He also acquires a marked loss of resistance to the effects of heat, emotions, tobacco and especially alcoholic beverages. Physically he is inclined to attacks of headache and dizziness, especially when bending over. There is also developed a suitable soil for the effects of other deleterious agents. An insignificant etiologic factor, which before the injury would have had no harmful effect on the patient, is of sufficient potentiality after the trauma to develop severe psychoses or psychoneuroses. The traumatic psychopathic constitutionality also carries in some instances the ear marks of neurasthenia and hysteria, very frequently also mixed hysteroneurasthenic states.

As will be seen from the preceding, the two authors differ chiefly in that Ziehen recognizes more forcibly the hallucinatory experiences, while Kraepelin lays much stress on the falsifications of memory. The general prognostic view held by these authors is quite an optimistic one, especially concerning the acute primary mental disturbances following head injury. As to the pathology of these cases, very little is known. In most instances there exist diffuse microscopic changes in the brain substance, characterized especially by minute hemorrhages and softenings. The location of the trauma plays no important part, and while as a general rule one would expect a quite severe impact in order to produce a general concussion and disturbance of the brain substance, mental disturbances have been known to follow quite trifling injuries to the head.

Audernach[6] reports a case of head injury in which the only external evidence of trauma was a small hematoma of the scalp over the occipital region. On examining the cerebrospinal fluid, blood was found, the patient later developing a psychosis. Here I think is an opportune moment to mention that in lumbar puncture we have one of the most certain guides in determining the extent of damage which the nervous system has sustained from a particular trauma.

The above authors have been quoted rather fully because their writings embrace the representative views of the German psychiatrists on the subject. I may add here that Kreuser,[7] after an exhaustive study of the subject, comes to the conclusion that it is very difficult to attribute to trauma the endogenous psychoses such as paranoia, mania, melancholia and hebephrenia.

CASE REPORTS

CASE 1.—A. B., white, male, aged 33, was admitted Nov. 3, 1904. Family history was negative; birth and childhood normal; school and occupational careers uneventful. He never suffered from any illness; uses alcoholic drinks moderately. July 27, 1902, he enlisted in the U. S. Navy and throughout his stay there was considered a good sailor. Oct. 5, 1904, at 11:30 p. m., while in a fight with another sailor, he was struck by the latter, fell down, striking his head on the pavement, was picked up by the police, who thought he was intoxicated, and taken to the first precinct station. There he was kept in the cell until 8 a. m. the next morning, when he was transferred to the casualty hospital. The naval authorities were communicated with and the patient was removed to the Naval Hospital on the same afternoon. The records of that hospital show that he was in a semi-comatose condition; pulse was slow and full; there was an odor of alcohol on his breath; there was slight confusion present, and a slight deviation of the left eye outward and upward. There were no paralyses and no vomiting; sensation was normal; temperature 100 F.; urine negative; involuntary urination and defecation; patient was restless. Behind the right ear there was a redness which appeared to indicate a fracture at the base of the skull, posterior fossa. Otherwise, no outward signs of injury to the skull were apparent. October 7, the patient appeared brighter; was taking nourishment; his brain was clearer; he answered questions; both pupils were equal and responded to light. There were no eye symptoms and no paralyses. Urination and defecation were involuntary; temperature between 98 and 100.4 F.; pulse slow and full. October 9, the patient's mind was clearer; he passed urine and feces voluntarily, and asked for nourishment; no localizing symptoms. October 10, mental condition not so good in the evening; involuntary evacuation of bowels and bladder; no localizing symptoms. October 12, the patient seemed stronger physically; polyuria was present; specific gravity of urine 10.06; acid; no sugar; no albumin; the patient had polydipsia. October 16, he talked irrationally; continually asked for water. October 18, he answered questions; could not tell his age correctly; talked disconnectedly. October 20, the patient was stronger; was restless; tried to drink urine; October 23, still wanted water; imagined he had $10,000,000 on the books; talked rapidly and at times disconnectedly.

The patient was admitted to the Government Hospital for the Insane Nov. 3, 1904, with a diagnosis of delusional insanity. On admission the physical examination was negative except for diminished patellar reflexes and absence of the plantar and cremasteric reflexes. Mentally he was dull, suspicious and apprehensive. Auditory hallucinations were prominent and he showed numerous delusions of a persecutory and grandiose type; complained of people cursing and abusing him; they were accusing him of performing certain indecent acts; heard someone say that they were going to spend $35 for poison with which to poison him. This same voice tells him that he is God and that he cannot die. Emotionally he was rather indifferent, seclusive on the ward, had no insight into his condition. As a rule, he behaved well but had frequent impulsive, violent outbreaks of anger, when he attacked other patients. He had no recollection of the accident, denied all knowledge of ever having been hurt or of having been arrested and subsequently taken to a hospital. All he knew was that he had a fever. In 1908 he was noted to still have pronounced auditory hallucinations and delusions of a persecutory type. Orientation, attention and comprehension were good; judgment impaired; no insight; at times the patient was depressed and worried; became easily excited and had a violent, uncontrollable temper, with frequent impulsive outbreaks of violence. At the time of writing this paper he is still confined to a ward for criminal insane on account of his violent, impulsive attacks on other patients. He is well oriented; has persecutory delusions, based on auditory hallucinations; no insight; is somewhat euphoric and egotistical; says that he is a highly educated man, and knows several languages. As a matter of fact, he speaks English very poorly and has great difficulty to find the proper word with which to express himself in his native tongue.

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[6] Audernach: Aertzl. Sachverst Ztg., No. 17.

[7] Kreuser: Württemb. Ztschr. f. Rechtspfl. u. Verw., ii, No. 1.

On closer questioning a retrospective amnesia, extending for a period of about two days before the accident occurred, was found to exist. He still denies all knowledge of the accident. There can be no doubt that this man's psychosis followed on the heels of the head injury, and his mental disturbance corresponds to a typical paranoid state. The patient shows now, over six years after the accident, no perceptible deterioration.

Case 2.—F. L., aged 58 on admission June 16, 1910. Nothing is known of his family history; birth and childhood normal; school and occupational careers uneventful. May 25 or 26, 1904, while in Alaska, he was struck over the head with a club during an altercation with three other men, two of whom he shot and killed, for which he is now under sentence for twenty years. The prison authorities state, in the papers which accompanied him on his transfer here, that he was erratic since admission to the prison Oct. 19, 1906. December 14, 1909, he was placed in an isolation ward for observation on account of writing scandalous letters and throwing them on the gallery of the cell-house, in order that other prisoners might pick them up and cause trouble. He has delusions of persecution. Diagnosis, paranoia.

Physically, on admission here, he showed a slight, coarse tremor of extended fingers; pupils were irregular in outline; mentally he was nervous and irritable; was as a rule cheerful and self-satisfied; quite talkative, and his conversation showed a marked degree of circumstantiality. He had a very exaggerated ego and was at times quite witty and quick to catch a joke. He comprehended well and his replies were coherent and relevant as a rule, but at times he would bring in a lot of irrelevant matter. His attention was mobile; consciousness unclouded; no delusions or hallucinations could be elicited; memory apparently unimpaired; emotionally he was cheerful as a rule, but inclined to be very cyclothymic; at times very irritable and fault-finding; made numerous requests daily; was always busy doing something on the ward.

He had numerous suggestions for the improvement of the hospital; read a good deal, and whenever seen, he commenced to elucidate a new scientific subject which he had been studying. He was neat and tidy in his habits but somewhat careless; was friendly towards those about him. He stated that ever since the injury his head had been "on the bum." For a long time after the injury he had frequent attacks of swooning, and on stooping over or turning in bed he often felt as though he would slide or pitch over. He asked to be sent here from prison in order to have his brain examined with an *x*-ray machine, and if it showed up any rotten spots like a specked apple, his skull could be opened and these spots scooped out. At the time of writing this paper the patient is in a state of mild hypomania; he is constantly busy with something or somebody on the ward; has numerous ideas as to improvements which should be instituted in the hospital; continually jumps from one subject to another without any directing goal. He possesses a pathologic degree of euphoria, is very unstable emotionally, somewhat irritable and impatient in a conversation, always wanting to have the upper hand; writes voluminous letters, using very flowery descriptions, and underscoring them in numerous places. He shows no clouding of consciousness and no appreciable memory defect, except that he is not certain about the date of the accident; he thinks it is either the twenty-fifth or the twenty-sixth of May. Here is a part of a conversation held with him Nov. 1, 1910:

"How do you feel, Mr. L.?" "I feel—say, I had a fine walk to-day; say, you see those gutters out there? They are natural sluices; we of course make them out of boards; so they started to inquire about me up there at the post-office. Say, I wish you could read that letter I wrote to the Attorney General." "You haven't told me, yet, how you feel, Mr. L." "All right, but say I had a swoon and my head goes round. Tell me what is epilepsy? I would like to know; you know they beat me unconscious; that letter, though, explains the whole thing; even the others said so," etc., etc.

The symptom-complex in this case resembles very much a typical state of hypomania, and there is very little doubt that its inception dates back to the time of the injury. The prison officials noted him to be erratic on arrival at the prison. His transfer to this institution probably became necessary because of an aggravation of his condition; this may perhaps be due to some arteriosclerotic changes in the brain. The patient is in the arteriosclerotic period.

Case 3.—N. M., a white man, aged 57 on admission June 18, 1910. One brother died of paresis, a sister at the time of his admission suffered from the fourth attack of recurrent mania; patient was always a man of limited mental endowment: he was the oldest boy in his class and was graded the lowest, reaching the third grade at the age of 12. He led an uneventful life, always using alcoholics. May 14, 1910, he was thrown to the ground from the rear platform of a car, sustaining a fracture at the base of the skull, on which a decompression operation was performed May 20. Following the accident the patient was in an almost completely unconscious state until the time of the operation six days later. He states that all he remembers was that he had a pain in his head. Following the operation he was confused, excited and at times violent; was very restless, wandered away from the house, losing his way, and was picked up on the street by the police and taken to the station house. On admission here, about a month after the injury, the patient was still slightly confused, but he cleared up in a very few days and was discharged recovered three weeks after admission. This case is a fair illustration of a simple confusion or delirious state following head trauma, with a complete recovery.

Case 4.—B. McK., a white man, aged 28 on admission Feb. 19, 1908, from the Naval Hospital at Philadelphia. The patient was a primitive individual of very meager attainments; early childhood and youth uneventful; at the age of 14 he fell, striking his forehead, and sustained a scalp wound which bled very profusely. His occupational career following this was of the lowest type; he would do any common labor which he could get, and finally on May 9, 1906, he enlisted in the U. S. Navy. In March, 1907, while on the ship *Connecticut* he fell from his hammock striking his head on an ammunition pack. Following this, he developed severe headaches, loss of memory, was frequently absent from duty for a day or so without any apparent cause, and could give no explanation for such absences; he had violent outbursts of temper, was very suspicious, seclusive and melancholy. Physically he showed a fibrillary tremor of extended fingers, knee-jerks slightly exaggerated, mild ankle-clonus, especially on the left side, speech somewhat thick and ataxic. After a short stay in the hospital he cleared up completely and was discharged July 2, 1908, as recovered. This is another illustration of mild mental disturbance, resembling somewhat a confused or delirious experience, following head injury, and which cleared up after a short time.

Case 5.—R. P., white, male, aged 44, Scotchman; family history negative, birth and childhood normal. He attended school between the ages of 4 and 17, graduating from grammar-school at 15; states that he was one of the first in his class. He launched on his occupational career immediately after leaving school, entering a jute concern as an apprentice and remaining there for three years. There he learned bookkeeping and business methods, and the inspection of jute. He made good progress and left at the expiration of his apprenticeship. While there he attended night school for six months. On arriving in this country at the age of 17, he soon obtained a position with a New York dry-goods firm, leaving that firm after a sojourn of one year because he had obtained a position as bookkeeper at a better salary. Here he remained four years, when he left and went on a three months' visit to Scotland. On returning to this country, he received a position as hier for a metal company. This position he held for two .rs, when he was appointed manager of a real estate concern a better salary. He used alcoholics in moderation up to)6, but was never intoxicated to his knowledge up to that ne. In 1896 (the patient does not remember the exact date), the age of 33, he was thrown from a horse, striking his ad on the pavement. He denies having been intoxicated at : time of the accident. He was picked up in a dazed condin; does not think he was totally unconscious at the time; nembers trying to get up but was unable to do so. He was ken to his boarding-house but has no recollection of this, members faintly being put to bed and having a severe conlsion; thinks the convulsion started with the muscles of the 't side of his face and neck; remembers that his tongue was ing protected by a spoon placed in his mouth; also that s fingers were in a spasm; lower extremities were not volved and he was not unconscious during the attack. He as told afterward that in one day he had thirty-six seizures. hese epileptiform attacks lasted for a period of two weeks. e believes that he struck on the vertex of the skull over the rietal region; also suffered from occasional headache at that me. Vision and audition are unimpaired; there was no eeding from any of the cranial apertures. Immediately folwing the accident he lost the power of speech and it was lly two months before he could articulate. According to is description of the speech defect, it was in all probability purely motor aphasia. He says the words would come to is mind but he could not express them. After a stay of two eeks at his boarding-house, he was removed to a hospital here he remained four months; he says that his memory was ffected during this time; that he was unable to think norally, and is certain that he was confused for some time ollowing the injury. He states that he had no clear recollecion of the accident, and that it was his friends who supplied im with the details. A letter which he wrote home about wo months after the accident was kept by his people as evience of his abnormal mental state. He recollects that he was ble to perform the mechanical part of the writing, but that is ideas were confused. He gradually improved and was nally discharged as recovered. After leaving the hospital e obtained a position with a bicycle firm where he remained or two years; when the Spanish-American War broke out, e volunteered, and after eleven months' service in Georgia, e obtained an excellent discharge. He then joined the regular rmy and after serving his enlistment in the tropics was sent ome with an excellent discharge. During this term of servce he was summarily court-martialed four or five times, mostly for absences without leave, caused by his alcoholic indulgences. On being discharged from the army, he obtained a position as night clerk in a hotel, where he remained until 1906, when he reenlisted and was assigned to recruiting duty at San Francisco. At this he remained for about two months, during which period he had a summary court-martial for absence without leave, caused by drinking.

Shortly afterward, complaining of sore throat, he was sent to the observation ward of the general hospital at the Presidio and later was transferred here. The medical certificate on his admission stated that the patient used alcohol to excess; that on admission to the Presidio Hospital, he was nervous, egotistical, pugnacious, prevaricated, had fixed delusions about religious matters, was obscene, abusive and irresponsible. Physical examination was negative except for dilated facial capillaries and tremor of the extended fingers.

On admission here he showed a hypomanic state, was excited, had flight of ideas and prevaricated much. Later on, a depression set in, from which the patient gradually recovered. "Confabulations" were marked throughout. He was discharged Nov. 23, 1910, to accept a position with the Salvation Army, after a sojourn in this institution of almost twenty-eight months.

The life-history of this patient has been gone into with more detail in order to show how his head injury marked the turning point in his career. A Scotchman of average education, he came to this country and launched on a career which showed a steady ascent, at the age of 33 having reached a well-paying position as manager of a real estate firm. He meets with this head trauma, and we next see him occupying a low-salaried position in a bicycle shop. Then he turns to the army. Here he apparently finds great difficulty in adjusting himself to the prescribed, well-regulated army life. He was court-martialed five times during his first enlistment. He makes another attempt at getting along on the outside, but fails and finally returns to the army. The second attempt here starts out with a court-martial, and he finally breaks down, developing a psychosis. After spending twenty-eight months under the well-regulated and tranquil life of an institution, he lands in the Salvation Army, one of the havens for human derelicts.

Here, indeed, the far-reaching effects of a head injury can well be seen. In his case, it robbed him of the forces which are so essential for the battles of life, the faculties which bring about an adjustment between individual and environment. The importance of this class of mental disturbance to the general practitioner, and especially for the practicing neurologist, can hardly be overestimated, especially when we remember that according to Friedman's statistics, 60 per cent. of all concussions of the brain are followed by psychic disturbances for a year or more after the injury, and that according to Ziehen, the traumatic psychoses form 3 per cent. of all admission to hospitals for the insane. The general practitioner is the first one called on to attend these cases, and while he is prepared to meet the immediate effects of the head injury, he must not forget that next to the question of whether the patient is going to live or not, he is confronted with the problem of giving a prognosis as to what effects the injury will have on the patient's future life.

It is conceded by many that injuries of the brain, if not severe enough to prove fatal, heal very benignly; and the question of paramount importance which then comes up is not one of immediate interest, not one of death and life, but one of a more far-reaching importance, namely, "How will the future life of the patient be modified by this injury?" It must also be borne in mind that liability litigations, and suits for damages often arise in these cases, and the physician is the one called on to give the most important evidence in the case, namely, to what extent the individual has been deprived, by this injury, of his physical and mental earning capacity.

I have refrained from discussing the various neuroses or psychoneuroses which may follow trauma of any kind, and head trauma in particular, because my cases deal exclusively with the psychic part of the question. I will, however, mention in passing, that a score of German neurologists, headed by Mendel, now recognize a definite liability-law-hysteria of neurosis; that is, the existing liability law forms the psychogenic factor in these cases. I mention this because the question of malingering, simulation and exaggeration of symptoms, may also occur in what appears to be the purest kind of traumatic psychosis. Kreuser, however, comes to the conclusion that the above traits are rarely concomitants of the symptom-complex following head injuries. The common picture is one of such a severe disturbance of the individual's affects as to lead the victim to the life of a tramp and criminal.

CONCLUSIONS

The above considerations lead me to the following conclusions:

1. There is no psychotic entity which can be diagnosed as a traumatic psychosis without a history of a

definite relation of the mental disturbances to a preceding trauma of the head.

2. Contrary to Kreuser's views, even what he terms endogenous psychoses can be brought on by head injuries, as our paranoid and hypomanic cases show.

3. The prognosis is favorable in the cases which show acute mental disturbances, such as acute delirious or confusional states, while in those cases which resemble what Kreuser terms the endogenous psychosis, the prognosis is extremely bad. The hypomanic patient is still insane six years after the injury, while the paranoid patient has shown no appreciable improvement since the occurrence of the accident in 1904.

4. The last one of my series of cases shows that head injuries may have a lasting deleterious effect on the individual; that while a cross-section at any particular point may not show any gross pathologic findings, yet a study of the entire individual's life will reveal a decay of his finer functions of intellect, which stamps him as a chronic psychic invalid.

THE PROGNOSIS AND END-RESULTS OF TREATMENT OF GASTRIC ULCER

GEORGE R. LOCKWOOD, M.D.
NEW YORK

The prognosis of gastric and of duodenal ulcer, as regards the percentage both of the mortality and of the curative effect of treatment, is difficult to determine. A mass of statistics is available but in many respects these statistics are insufficient and misleading. This applies to the reports of both medical and surgical cases.

Many of the discrepancies that exist between the statistics of physicians and surgeons are due to the fact that they refer to entirely different types of ulcer. The physician meets varieties that are not apt to come at any time under surgical observation. The physician sees all kinds; the surgeon sees only a limited number and a limited variety.

Let us consider for a moment the varieties of ulcer that come under the care of the physician and compare these with the varieties of ulcer that come under the care of the surgeon.

I. The physician is called on to treat as ulcer, three distinctly different sets of cases:

First, there are acute ulcers, constituting 15 to 20 per cent. of the total number of ulcerations. These are almost regularly amenable to medical treatment and afford a large percentage of the cases of ulcer in which permanent cure is obtained. It may be said that permanent cure is obtained in at least 90 per cent. These acute ulcers, however, by reason of their tendency to hemorrhage and perforation, add materially to the mortality rate. They do not come as a rule under the observation of the surgeon, except in the event of perforation, or more rarely of hemorrhage.

Second, there are cases of chronic ulcer with or without complications, such as recurring hemorrhages, perigastric adhesions and pyloric stenosis. These are the purely border-line cases and are seen alike by the physician and surgeon. The prognosis in these cases depends, (1) on the actual number that are really cases of ulcer; (2) on the thoroughness of the medical treatment, and (3) on the care that the patient takes of himself during his convalescence. These are practically the only ulcers which the surgeon sees and he sees only a part of them.

Third, there are the cases which are diagnosed as ulcer but which are not ulcer. When a surgeon operates on a patient, he sees the ulcer and recognizes it as such. The physician, on the other hand, makes his diagnosis without the benefit of such palpable and visible evidence, and may or may not be correct in his conclusions. It is certain that very many patients are treated for ulcers who are really suffering from chronic appendicitis or gall-bladder disease.

A few years ago, wishing to trace the end-result of ulcers treated by me, I sent circular letters of inquiry to former patients, limiting the inquiries to those alone in whom the diagnosis of ulcer seemed certain.

Twelve per cent. of the replies received were to the effect that after the ulcer treatment, the symptoms had improved but had not entirely ceased, until, after an acute attack of appendicitis, the removal of the appendix had been followed by entire and permanent cessation of the gastric symptoms. This experience has never been forgotten.

In a recent article Cabot gives the results of a series of autopsies at the Massachusetts General Hospital, and finds that peptic ulcer, gastric and duodenal, was correctly diagnosed in but 36 per cent. of cases; ulcer was present, but not diagnosed, in 56 per cent.; ulcer diagnosed, but not found, in 8 per cent.

In my experience, from 12 to 18 per cent. of cases treated as ulcer are treated on a wrong diagnosis. Here comes in the weakness of the medical statistics. No only are we liable to commit diagnostic sins of omission and of commission, but the range of such errors varies according to the different observers. One physician wil not make a diagnosis of ulcer unless confronted by a case that runs a classical course, or one attended by hemorrhage or perforation, while another with equa clinical experience will diagnose ulcer on far less posi tive evidence.

It is evident that if one waits for an ulcer to run an aggressive and unmistakable course before making a diagnosis, one's mortality rate will be higher than i one included the milder and more amenable cases. Th personal equation has a most important influence on statistics.

If, on the other hand, ulcer is too readily diagnosed we shall include a large number of cases of chroni appendicitis and gall-bladder disease, and thus be led t incorrect conclusions.

The inclusion of these cases incorrectly diagnosed will not add to the percentage of mortality, but rathe to the reduction of the death-rate. On the other hand it is obvious that we materially increase the percentage of those who are merely improved, or unimproved, and we reduce the number of those clinically or permanently cured.

II. The surgeon, on the other hand, sees very few o the acute cases except in the event of perforation o hemorrhage; nor does he include among his cases o ulcer, those in which the ailment has been incorrectly diagnosed. He sees only these chronic ulcers with o without complication, in which exploration proves th diagnosis to be correct. Nor does he see all of these cases. He merely sees such a proportion of them as have proved rebellious to medical treatment, either because the ulcer was not one that could be cured by medicine and diet, or because the treatment by the physician had been insufficient, or because the patient had not been intelligent or persevering enough to carry out the treat ment for a sufficient length of time.

It is natural for him, therefore, to take a more gloomy view of the results of medical treatment than would seem warranted by facts. This brings us to the difference in prognosis according to whether the statistics are compiled from private or from hospital sources.

In hospital cases the mortality is naturally greater than in private practice, because of the greater severity of the cases admitted and because of the larger proportion of cases entering the wards with severe hemorrhage or perforation. In 100 consecutive Bellevue Hospital cases, 17 per cent. of patients were admitted because of alarming hemorrhage; 7 per cent. because of perforation.

The results of treatment are very different in the two classes. For medical treatment to produce results in chronic ulcer, it should be continued for a long period of time, even after the cessation of symptoms. Hospital patients remain in the wards just as long as they suffer pain, and leave as soon as they are fairly comfortable, returning to a promiscuous, unsuitable diet and to a disregard of all medical conventions. No wonder, therefore, that so many are unimproved and that so many relapses occur. It is only after alarming hemorrhage that many of the hospital patients will undergo any treatment at all. The comparatively small number of perforations which occur in patients who have had an ulcer treatment because of hemorrhage shows the beneficial effect of medical treatment, even though it be inadequate to effect a permanent cure.

The difference between hospital and private cases has been well shown by Musser in a recent article. According to this writer, the mortality from ulcer treated medically in private practice was 3.1 per cent. In patients treated medically for ulcer in hospitals, the mortality was 12.4 per cent. These are figures compiled from a large number of sources.

Musser concludes that about 8 per cent. of ulcer patients, combined private and hospital, die as the result of the disease.

My own experience coincides remarkably with the figures just given. The mortality of ulcer treated in private practice has amounted to 3.1 per cent., the precise figure given by Musser. If we exclude the patients who are practically moribund when first seen, however, the mortality after treatment was begun was almost negligible. In compiling these reports of hospital cases, however, I have excluded those in which death resulted from intercurrent disease, not associated in any way with the gastric ulceration, comprising three cases of acute lobar pneumonia, one of uremia, one of arteriosclerosis and cerebral hemorrhage, in which chronic ulcer in the stomach was found at the autopsy, which had given no symptoms during life and which had in no way contributed to the death of the patient.

The general mortality of private and hospital patients combined, amounted to a little less than 7 per cent. My figures include about 175 ulcers in private practice, eighty-four in hospital.

PROGNOSIS OF ULCER TREATED SURGICALLY

Operation for gastric ulcer yields far better results when done by experienced operators than when done by the profession at large. The results obtained by such men as the Mayos, Robson, Moynihan and Finney, afford striking proof of their clinical wisdom, their skill in operation and their infinite genius for painstaking work.

In the leading hospitals of this city, gastro-enterostomy is done with a mortality that probably does not exceed 2 per cent. The result has been that gastro-enterostomy is no longer regarded as a formidable operation. One prominent New York surgeon writing to me on this subject says: "The operation in a benign condition is but a little more dangerous than an interval appendix operation."

It would be very unfortunate indeed if the general impression prevailed that gastro-enterostomies could be done as safely as this. These men are specialized surgeons and skilfully trained. The mortality of the operation as done by the profession at large is quite different, and the reports of physicians whose patients are operated on by different surgeons of more or less experience are not so very satisfactory.

In 150 benign cases quoted recently by Bettman and White, the immediate mortality was 10 per cent. Musser's combined statistics show fatalities in 11.4 per cent. of cases in private practice, 20 per cent. in hospital. Hall reports six deaths of his patients operated on by different surgeons. Dunham within two weeks reports that of forty-eight patients with ulcer under his care, on whom operations were performed, twelve died within seventeen days and six of these within three days, making an immediate mortality of 12.5 per cent. He estimates the mortality of operation for gastric ulcer in the past four years to be a trifle over 10 per cent.

Before accepting this figure of 10 per cent. mortality by surgical treatment, two facts must be considered:

1. It is but fair to the surgeon to say that many physicians are often extremely remiss in dallying too long with medical treatment, and turning over to the surgeon as a last resort an exhausted, starved and often bloodless patient. It is but fair to the physician, on the other hand, to say that the recent improvement in surgical statistics is not alone due to improvement in the surgical technic, but in great part to the wisdom of the physician in calling in surgical help earlier and in better-selected cases.

2. The ordinary operation for gastric ulcer is gastro-enterostomy and the low mortality rate of gastro-enterostomy is fixed in a few medical, and in many surgical minds, as the general surgical treatment of ulcer. As a matter of fact many ulcers are excised, some in accessible regions, others in regions more difficult to approach and these more severe operations raise the death-rate materially over that of gastro-enterostomy pure and simple.

It is very likely that many of these complicated operations are included in statistics under the general heading of gastro-enterostomy. In this way we may be unfair to gastro-enterostomy as an operative procedure, but, on the other hand, the operative results thus obtained are the real surgical risks of operative treatment of ulcer.

My own figures are as follows:

Twenty-six private patients operated on for ulcer in the past six or seven years, with six deaths, two after exsection and gastro-enterostomy; four after gastro-enterostomy alone. I believe that all but one (on whom exsection was performed) were good surgical risks and were carefully selected cases. No patient on this list had hemorrhages or perforation. No death was due to faulty technic as far as I can see. There were two vicious circles requiring secondary operation, and one jejunal ulcer that required four ulcer treatments for its cure.

I would conclude, therefore, as to mortality percentages as follows: (1) mortality in uncomplicated gastro-enterostomy by a skilled surgeon, 2 to 3 per cent.; (2) by the average surgeon, 6 to 8 per cent.; (3) general operative mortality including exsections, not far from 10 to 15 per cent., when performed by good men.

It is extremely important for the physician in charge of an ulcer case, that requires surgical interference, to choose as his confrère an operator of known skill and experience in gastric surgery whose death-rate is increasingly low.

END-RESULTS OF MEDICAL TREATMENT

It is difficult to arrive at satisfactory conclusions by a study of the statistics available, because, as a rule, the patients are not followed long enough to determine whether or not the ulcer has actually healed. The relief, or even the total cessation, of symptoms should not bring an erroneous belief that the ulcer is healed, for in many of the patients, even in those who conscientiously carry out the instructions of their physician, symptoms of ulcer sooner or later reappear, and the relapse may be as serious as was the original attack.

The length of time of freedom from symptoms which must elapse after treatment before the patient can be declared cured is an arbitrary one, but it may be said that two years at least must elapse without symptoms before any conclusions can be drawn.

It is obviously more difficult to trace hospital patients than those seen in private practice, but when they can be followed, it will be found that relapses are much more frequent than in those whose mode of life and intelligence guard them from the obvious faults of living which militate against those in the lower walks of life. The longer the patients are followed, the greater is the number of medical failures that become evident. No value can be attached to the reports of cases that are not followed for at least two years. It may be said from a study of statistics that conform to scientific requirements, that, under medical treatment, about 80 per cent. of patients are apparently cured, and that in hospital practice one-half of these, and in private practice one-quarter of these, relapse, making a permanent cure in 40 to 45 per cent. of hospital cases and 60 to 65 per cent. of private cases.

Greenough and Joslin found that in the Massachusetts General Hospital, while 82 per cent. of patients with ulcer were discharged as "cured" or "relieved," only 40 per cent. remained well. Sears estimates the number of medical failures after five years at 50 per cent. Mumford and Howe estimate 80 per cent. of apparent cures, of which one-half relapse. Hewes, in fifty-one cases, found forty-eight patients apparently cured; in two years 63 per cent. of these remained well. Paterson, in seventy-two hospital patients discharged as cured, found that but nineteen remained well, seven were doubtful, forty were still suffering, five had undergone surgical treatment, and one had died.

In the remaining 20 per cent., the immediate result is not brilliant, a certain amount of distress still remaining, although as a rule the patients are benefited to a greater or less extent by their treatment. The number of those who show no improvement whatever is relatively small, probably not over 5 or 6 per cent. It is quite certain that many of these improved or unimproved cases are not ulcers at all.

In 1897 Von Leube, in a communication before the Thirteenth Surgical Congress, announced that, whereas the former mortality of ulcer had been as high as 13 per cent., the enforcement of the rigid treatment inaugurated by him had been promptly followed by a marked reduction in the death-rate. In 556 cases reported by him, 74.1 per cent. of the patients could be considered cured, 21.9 per cent. improved, 1.6 per cent. unimproved, and 2.4 per cent. had died.

In 1909 Von Leube[1] gave the total of his later results to date and they show a surprising improvement over previous records.

Of 627 patients treated in the previous eleven years in his clinic and in his private practice for ulcer, with and without hemorrhage, 566, or 90 per cent. were clinically cured, (76 per cent. within four weeks, 14 per cent. in a period longer than this); fifty-three, or 8.5 per cent., were improved; six, or 1 per cent., remained unimproved, and two patients, or 0.3 per cent., died as the result of hemorrhage.

Tabulating the ulcers that were attended by hemorrhage, he found that seventy-two patients, or 90 per cent., were clinically cured (66 per cent. within five weeks, 24 per cent. in a longer period of time than this). Five, or 6.25 per cent., improved, one, or 1.25 per cent., remained unimproved, while two patients, or 2.5 per cent., died.

These are astounding results. I make use of the term "clinically cured," however, because Von Leube states in his communication that he regards as "cured" those patients in whom the symptoms disappear for a period of three weeks, and in which ordinary hospital diet, not especially prescribed for gastric cases, but given to those patients whose digestion is good, is eaten without discomfort. He notes that occasionally an ulcer is only apparently cured, and, that after a longer or shorter time, pain, dyspepsia and hemorrhage may reappear; but in his experience such a relapse occurs only in very rare exceptions.

It is unfortunate that Von Leube has not followed up his cases for two years or more, and given us the end-results thus obtained, because as they stand at the present time they give us only the temporary result of treatment; further than this they mean nothing. My experience leads me to believe that under a rigid ulcer cure fully 90 per cent. of patients may be considered "cured" in the sense in which that term is used by Von Leube, but I am not so optimistic as to the after-results of treatment.

Of the patients I treated for ulcer by a rigid and thorough ulcer cure, and followed for over three years, 66.6 per cent. were clinically cured, 16.6 per cent. relapsed, leaving 50 per cent. permanently cured; 22.2 per cent. were improved, 5.5 per cent. were unimproved; 5.7 per cent. of the patients died (not, however, as the result of ulcer).

END-RESULTS OF SURGICAL TREATMENT

Owing to the fact that the great advances made in gastric surgery have been so recent, notwithstanding the large number of patients operated on, only a few can give a postoperative history of sufficiently long duration to be authoritative as to ultimate results. It must be conceded, however, that in no other field of operative work have more brilliant results been effected, both as regards degree of improvement and permanency of cure. Since the reports were written, however, under the excitement of their successes, it is possible that too much has been claimed by operators for surgery.

Deaver writes: "Surgery allows 95 to 98 per cent. of patients to recover." At the same time he published the table reproduced here of surgical end-results, in which the average of cure is but 86 per cent.

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[1] Deutsch. med. Wchnschr., June 3, 1909, No. 22.

END-RESULTS OF OPERATIONS FOR BENIGN DISEASES OF THE STOMACH AS SHOWN BY DEAVER

Operator	Patients Traced	Cured	Percentage
Mayo (1908)	234	189	80.7
Moynihan (1908)	247	211	85.42
Czerny (1902)	53	44	83.0
Robson	96	89	92.7
Deaver (1900-1907)	64	49	76.5
Deaver (1905-1907)	31	26	83.87
Paterson (collective statistics)	116	109	93.9
Helferich (1905)	56	41	73.3

In Deaver's[2] own patients who were traced, only 58 per cent. had no gastric symptoms after operation, 14 per cent. were markedly improved, 6 per cent. were unimproved, while 14 per cent. had died, either from the original gastric lesion (two probably from cancer) or from some late complication such as intestinal obstruction, or vicious circle indirectly caused by the stomach condition. If we include in the surgical statistics the results of operative treatment administered by surgeons of less experience and skill, the showing is certainly not so much in favor of surgical intervention as we have been led to suppose.

Bettmann and White found that of 126 patients who survived the operation (10 per cent. having died as an immediate result of the operation), and who were under observation for a year or more, only 64.3 per cent. remained well, 6.3 per cent. were much better, while 24.7 per cent. reported as little or not better.

Paterson, by tracing the history of 116 patients who had been operated on by gastro-enterostomy at periods varying from two to nineteen years, concludes that but 85 per cent. are permanently cured. I believe that the latter figure, or even a little less, will be nearer correct than the high estimates given; that 2 to 10 per cent. will die directly or indirectly from the operation, depending on the individual surgeon who operates, and that probably 15 per cent. will derive but little benefit from their treatment.

The surgeon is too apt to regard the patient with ulcer as cured as soon as the operation is over. Properly speaking, the cure has only just begun. Every patient operated on should have an after-cure more or less strict. The proper healing of the ulcer, the cure of multiple ulcers, the danger of fresh ulcers and a lessened risk of jejunal peptic ulcers, are the reasons why such an after-cure is imperative.

I would be more inclined to employ surgery as a routine were I more fully convinced that malignant degeneration of ulcer occurs as often as it is said to do by certain operators and pathologists.

It has been known for sixty years that in a certain number of ulcers, malignant changes occur, the older writers placing this frequency at 6 to 8 per cent. basing their conclusions on the result of post-mortem examinations. In the advanced cases of malignancy that come to autopsy it is often impossible to decide whether signs of previous ulceration are present, and it is therefore to the surgeon. who has the opportunity of examining the early stages of malignancy, that we must look for accurate data on this subject.

The statements are now made that about 70 per cent. of cancers of the stomach originate from ulcer. If this be so, it must give us pause and compel us to turn to surgery as a preventive of this dread disease in our chronic ulcers.

This pathologic statement as to pathology, however, is at variance with clinical observation. Were 70 per cent. of cancers preceded by a stage of chronic ulceration, a previous history of ulcer would be found in the great majority of the cases. Here physicians and surgeons divide.

In 150 cases of cancer, Osler found an ulcer history in 2.6 per cent, and in not a single instance could it be positively diagnosed. Fenwick obtained an ulcer history in but 3 per cent. of his cancer cases, Haberlin in 2.3 per cent., Eichhorst in but 2 per cent.

In 174 cases of cancer in my care in which the history is complete, 147 patients gave absolutely no previous history of any indigestion whatever; fourteen gave a history either of alcoholic excesses and morning vomiting, or of indefinite dyspepsia that was practically negligible; while only thirteen gave a history that might point toward gastric ulcer; so that in but 7 per cent. could such a surmise be entertained. A positive history of ulcer was obtained in but 3 per cent. of cases.

This immunity from previous history of indigestion in cancer was evidently the older surgical idea.

Robson in 1901 writes in his book on cancer: "It is, however, rare to elicit a history of very old-standing stomach disorder; the first evidences of local disease appear suddenly in persons of perfectly sound health and robust digestion." In 1907, six years later he writes: "In no less than 59.3 per cent. of cancer of the stomach on which I have performed gastro-enterostomy for the relief of symptoms, the disease having advanced too far for gastrectomy, the long history of painful dyspepsia suggests the possibility of ulcer preceding the onset of malignant disease." This is a pretty rapid and radical change of ideas!

If ulcer preexists in 70 per cent. of our cancer cases, how is it that we can obtain a clinical history of ulcer in but 3 to 4 per cent. of these cases? Is it that we do not know an ulcer history when we see one, or recognize one ulcer history to the surgeon's fifteen, or is the surgical estimate based on wrong premises and unsupported by clinical experience?

Furthermore, we all have watched patients with ulcer, many of them for years. How many become cancerous after months or years? In my experience the late development of cancer on an old previous ulcer is exceedingly rare. I cannot say that the statement that 70 per cent. of cancers arise from ulcer is wrong, but regard it as important to consider and to verify. I do not regard it as proved at the present time.

INDICATIONS FOR SURGICAL TREATMENT

During the past few years, the relative indications for medical and surgical treatment of ulcer have been fully and freely discussed, with the result that at the present time physicians and surgeons have come to think and act in perfect harmony with each other. There is no such thing as an exclusive medical treatment, nor can it be affirmed that ulcer is purely a surgical disease; but while some ulcers are to be treated medically, and others call imperatively for surgical treatment, the majority are grouped near the borderline.

Acute, uncomplicated ulcers are best treated medically. This is conceded by all surgeons, who often designate this form as "medical ulcer." Relief by medical treatment is usually prompt and lasting.

Chronic, uncomplicated ulcer should not be regarded as surgical until, after a rigid and systematic course of treatment, the symptoms persist or recur. The main indication for surgery is in the failure of medical treatment to give beneficial or lasting results. It must be emphasized that the treatment should be thorough, and continued for a sufficient length of time, as medical failures are more often due to half-hearted and insufficient treatment than to actual limitations of the medical art. No treatment can be considered efficient that does not include rest in bed for at least three weeks. In general terms, it may be said that ulcers which do not yield to two months' active treatment will probably prove resistant to surgical procedures. Some consideration must, however, be paid to outside conditions, such as the amount of time that can be given to treatment, or the probability of the patient taking sufficient care of himself during the convalescent period, to prevent relapse or recrudescence. In the case of a laboring man whose family is dependent on his daily wage for the necessities of existence, and who is apt, on leaving the hospital, to disregard all dietetic rules and conventions, it may be better to recommend surgical intervention earlier than would be advisable in the case of those whose intelligence and environment allow of a conscientious observance of the details of treatment.

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[2] Deaver and Ashhurst: Surgery of the Upper Abdomen, i, 108.

If, after a vigorous medical treatment, the symptoms persist, or, if in spite of every precaution, there should be relapses, indicating that the healing of the ulcer has not been complete, surgical treatment is indicated. The mortality rate and the percentage of cures are both on the side of surgery in these cases.

Exploration is demanded without loss of time in all cases in which there is a suspicion of malignancy.

Single large hemorrhages are best treated medically. If the bleeding is stopped by medical means, no harm is done, while the operation of opening the stomach and ligating the bleeding point, when the perforation occurs during a period of acute anemia, is extremely hazardous. Hemoglobin tests under 35 per cent. contra-indicate operation except in emergencies, in which great risks may be taken. On the other hand, hematemesis that ceases spontaneously is often accompanied by anemia even greater than this.

Recurring hemorrhages, if not relieved by a course of medical treatment, may properly be placed on the surgical list, especially if the continued loss of blood occasion a progressive anemia. In these cases operation should not be too long deferred, as there may be complicating malignancy present. Cases in which occult bleeding follows every attempt to place the patient on solid food, after a regular ulcer treatment, should invite surgical intervention.

Perforation, either acute, subacute or chronic, is a purely surgical complication. Acute perforations demand instant operation, as every hour which elapses until the aperture is closed diminishes the patient's chance of recovery. Immediate laparotomy is called for alike in those cases in which there is a slight amount of initial shock, such as are often encountered with duodenal perforations, and in those patients in whom initial shock is profound. It would be a fatal error in judgment to temporize in the one case until the indications for interference become more manifest, or to defer laparotomy on the other, in the hope of bringing the patient into a better physical condition to withstand an operation.

Pyloric obstruction, hour-glass contractions of the stomach or *persistent adhesions,* which interfere with the proper drainage of the stomach into the bowel, are to be treated surgically, although in the majority of instances, preliminary treatment by lavage and diet may so improve the general condition that the operation is performed with a minimum of risk.

Adhesions, whose presence is only to be surmised, and which do not interfere with the proper motility of the stomach, are best left untreated. An exception may be made in those perigastric adhesions, especially those between the lesser curvature of the stomach and the under surface of the liver, which are dragged on by physical exertions, or even during locomotion, and which give rise to such discomfort as to render it impossible for the patient to be up and about doing his work.

18 East Fifty-Second Street.

VERNAL CONJUNCTIVITIS AND EOSINOPHIL CELLS *

BROWN PUSEY, M.D.
CHICAGO

In 1903 Herbert[1] discovered the fact that the conjunctival secretion in vernal catarrh is rich in eosinophil polymorphonuclear leukocytes, and called attention to the bearing of this fact in diagnosis. Several observers have confirmed this discovery, in that they found tissue affected with this disease rich in these cells; and Peters[2] confirmed it by finding the cells in the secretion. Axenfeld, in his exhaustive study of the pathology of vernal catarrh, emphasized the importance of these cells in diagnosis and reported their presence in eight cases in one year. LaGrange,[3] Gabrielides,[4] Blaauw[5] and Lafon[6] have lately recorded cases of this disease with eosinophil cells in the secretion.

In the spring of 1910, two typical cases of vernal catarrh came under my care in which the secretion was rich in eosinophil cells. These two cases attracted my attention to the possibility of the importance of these cells in diagnosis, and I began examining smears stained with Giemsa taken from all the cases of conjunctivitis seen in my clinic and in private practice. I continued this during the spring and summer, and I venture to publish briefly the results of this work because from it I am convinced that Herbert's discovery has received too little attention, and that we therefore continue to overlook a disease which is much more frequent than is commonly suspected.

My series of cases included all the ordinary forms, etiologically speaking, of conjunctivitis—conjunctivitis from the common bacteria, as pneumococcus, staphylococcus, gonococcus, in adult and new-born, diplobacillus of Morax-Axenfeld; several cases from chemical irritants accidentally applied, as lime and alcohol; numerous cases of acute and chronic trachoma, in two of which trachoma bodies were found; numerous cases of phlyctenular conjunctivitis; six cases of conjunctivitis accompanying measles; and, as is usual in any series of cases of conjunctivitis, there was a number of cases of unknown etiology and no bacterial finding.

In the smears from the cases of conjunctivitis of known cause, including in these the cases of measles, eosinophil cells were very rare, only an occasional one being found. In the cases of unknown etiology and no bacterial finding it developed early in the work that in a number of them the conjunctival secretion was rich in eosinophil cells. This finding led to a more careful clinical observation, when it was discovered that clinically those cases rich in eosinophil cells agreed in every point with descriptions of vernal catarrh found in the standard text-books.

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* From the Department of Ophthalmology, Northwestern University Medical School.

[1] Herbert: Preliminary Note on the Pathology and Diagnosis of Spring Catarrh, Brit. Med. Jour., 1903, ii, 735.

[2] Peters: Die Pathologie und Therapie der einfachen chronischen Konjunktivitisformen, Ztschr. f. Augenh., 1907, xviii, 415.

[3] LaGrange: Contribution a l'étude du catarrhe printanier, Arch. d'Opht., 1908, xxviii, 337.

[4] Gabrielides: Note sur la tarsoconjunctivite proliférant, Clin. Ophth., 1908, p. 158

[5] Blaauw: Conjunctivitis vernalis, Ztschr. f. Augenh., 1909, xxii, 317.

[6] Lafon: Examen cytologique et micro-chémique des sécrétions conjunctivales: Son utilisation en clinique, Ann. d'oculist., 1910, cxliii, 321.

Of the cases in which I was led to the diagnosis by the eosinophil cells in the secretion, there were ten; I also saw during the spring and summer three cases of vernal catarrh in which a proper diagnosis would have been made without attention to the presence of eosinophil cells, making a total of thirteen cases in a small clinic.

When it is realized that vernal catarrh is considered a rare disease, and that I recognized ten cases in a year directly as the result of Herbert's discovery, the importance of his observation in diagnosis of this disease is clear.

The experienced clinician will doubtless be surprised by the statement that thirteen cases of vernal catarrh were found in a small clinic in a year and when I found that I was seeing a case almost every week, and, indeed, one day saw two cases, I was troubled, fearing inaccuracy in my observations. However, in every case in which eosinophil cells were at all common, the objective and subjective symptoms agreed with those given in the standard text-books, and then the question came up as to the cause of the former failure in diagnosis.

I am strongly of the impression that the answer is simple and that we have not known the disease in spite of accurate, although ill-balanced descriptions of it. This is illustrated in that admirable text-book—that of Fuchs—under symptoms and course. The following passage occurs:

> The conjunctiva of the tarsus is covered with papillæ which are broad and flattened so as to make the conjunctiva appear like a pavement of cobblestones. Over the whole lies a delicate bluish-white film as if a thin layer of milk had been poured over the conjunctiva. The changes in the conjunctiva of the eyeball are still more striking. Growths arise from the limbus at the outer and inner side of the cornea under the form of brownish, uneven hard nodules of gelatinous appearance.

The above is found in his principal description of the disease. In a foot-note one finds in small print the following statement:

> The papillæ are often small or altogether absent, so that the bluish-white veil, which covers the conjunctiva of the tarsus, is the only evidence of the disease.

In the above description I believe I have relief from my fear of inaccuracy in observation, and the answer to the question regarding our former failure in diagnosis. We have heretofore made the diagnosis when papillæ existed and overlooked cases without papillæ. The cases with small papillæ or no papillæ at all are, I believe, the more frequent and it is in these cases that Herbert's observations will be of most service.

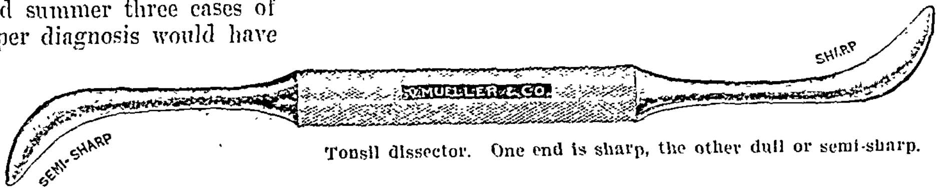
—70 Madison Street.

Overfeeding in Breast-Fed Infants.—A nursing mother admits hunger as the only cause of an infant's tears. The amount of milk which she supplies depends on the demands of the infant. The child's capacity for food is limited, but the instinct to suck prevails each time the breast is offered. Hence *among* nurslings overfeeding is rife and alimentary disorders common.—W. J. Maloney, in the *Practitioner.*

NEW TONSIL DISSECTOR

JOSEPH B. GREENE, M.A., M.D.
ASHEVILLE, N. C.

My excuse for adding a new instrument to an already large list of tonsil instruments is its simplicity, and adaptability to the removal of the submerged tonsils, and likewise the more or less pedunculated gland. As the illustration shows, the instrument has one semi-sharp or dull extremity, while the other end is sharp. The dull, or semi-sharp end is for blunt dissection in cases in which the adhesions to the pillars are not strong and fibrous, and in which the plica triangularis is not present. It is especially suited for the removal of tonsils in young children.



Tonsil dissector. One end is sharp, the other dull or semi-sharp.

It causes a minimum amount of bleeding, thus shortening the time of operation. The sharp end of the same instrument will be found useful in the buried and somewhat fibrous tonsils, or when the plica triangularis is prominent—a condition which requires cutting before the tonsil can be separated from the pillars.

I use this instrument to free the tonsil from its attachment as a preliminary to the use of the wire snare. For those who do not use the wire snare, however, the gland can be entirely removed by this instrument with the aid of a suitable retractor.

REPORT OF THIRTEEN CASES OF HEMIPLEGIA FOLLOWING HEAD INJURY *

EDMUND A. BABLER, M.D.
Junior Surgeon, Deaconess Hospital; Visiting Surgeon, City Hospital
ST. LOUIS

Hemiplegia due to cranial injury is perhaps of more frequent occurrence than we have been led to believe, although this complication was present in only thirteen of the 614 cases of fracture of the skull admitted to the City Hospital during the past five years. In two other cases there was paralysis of one leg, and in one case the side of the patient's face, opposite to the scalp wound, was motionless. A brief report of the cases in point follows the history of my own case.

AUTHOR'S CASE

CASE 1.—*History.*—G. P., colored, a laborer, aged 29, was admitted to the surgical department of the City Hospital, *Oct. 18, 1910.* Dr. Chaddock, visiting neurologist to the City Hospital, saw the patient with me. The patient was conscious and stated that two hours before admission he was struck on the right side of his head with a heavy hoe handle. On regaining consciousness one hour after the injury, he found that the left side of his body—that is, his arm and leg—was paralyzed.

Clinical Findings.—At the time of admission examination revealed a very large hematoma covering the greater portion of the right side of the patient's head. The pupils were equal and reacted to light and accommodation. Facial paralysis was absent; pain and tactile sense were absent in the left arm and leg; knee-jerks were present at time of admission, but fifteen minutes later the knee-jerk in the left leg had disappeared.

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* From the St. Louis City Hospital.

The left leg and arm were paralyzed; the Babinski, Gordon and Oppenheimer signs were absent on both sides. There was absence of hemorrhage from the ears or nose. The pulse was 60, respirations 18, temperature 98 F. Dr. Kissel incised the hematoma and found an extensive depressed fracture of the right parietal bone, and involving the occipital bone.

Operation.—Under ether anesthesia, the usual incision was made and the depressed fragments elevated. Brain tissue escaped. The opening in the dura was enlarged and a subdural clot removed. The greater portion of the gray matter in the right Rolandic area seemed to have been crushed and destroyed by the injury. The removal of the fragments of bone was followed by a hernia cerebri. Examination of the right middle meningeal artery showed same intact. Dr. Chaddock concurred in the opinion that a basal hemorrhage was present. A piece of rubber dam was placed between the exposed white matter and the scalp and the operation wound closed with interrupted sutures. Two small drains of rubber tissue were placed in the lower angle of the wound.

Convalescence.—On the day following the operation, the patient stated that there was a slight return of sensation in the left side of his body, but he was unable to localize. There was a hypersensitiveness in the left supraclavicular and shoulder regions. The drains were removed on the third day. A grumous substance escaped from the wound for several days after the operation; examination of the substance showed it to be brain-cells and blood-cells. Ten days after operation the rubber dam was removed. Later the wound discharged a grayish liquid which showed destroyed brain-cells and staphylococci. The hernia cerebri became gradually smaller until at the time of the patient's discharge December 8 Dr. Hardaway noted that it was not prominent.

Return of Function.—As early as the first day after operation the patient appreciated a beginning return of function in the involved leg and arm. On the sixth day Dr. Kissel found that there was a slight return of tactile sense in the left leg; on the tenth day the patient could move his left leg, and on the following day he could move the affected arm but could not move the hand or fingers. From this date the improvement was very noticeable at each daily visit. Fifteen days after operation the patient was permitted to sit in a chair. November 15 Dr. Simon made a notation that the patient could walk and that the left leg and arm were functionating. The patient requested his discharge December 8. His condition was very good.

ADDITIONAL CASES

Case 2.—Patient unconscious; pupils unequal; right dilated; both reacted; paralysis of left side of face; also left arm and leg; no marks of violence on body. Patient died within a few hours.

Case 3.—Patient unconscious; pupils equal and reacted; tongue deviated to the left; hemiplegia on left; hematoma over right parietal bone. Operation showed hemorrhage from right and left middle meningeal arteries. Three weeks after operation there was a slight return of function on left side of body; patient had not fully regained function in limbs at time of discharge.

Case 4.—Patient unconscious; laceration of left parietal region; pupils equal and reacted; spasmodic twitchings of chest and face; paralysis of right arm and leg; pulse 60, respiration 28, temperature 102 F. Operation revealed epidural hemorrhage. The patient died.

Case 5.—Patient unconscious; had fallen ten feet; laceration found in left temporal region; paralysis of right side of body; pulse 84, respirations 28, temperature 98.6 F. Operation revealed a depressed fracture of the greater portion of the left parietal bone. There was an epidural clot present. Patient died.

Case 6.—C. C., admitted May 12, 1908, unconscious; hematoma in the mid-occipital region; pupils unequal; right pupil dilated; hemorrhage from right ear; complete paralysis of both arms and legs. A linear fracture of occipital bone, going toward the base, was found. Operation revealed laceration of the cerebellum. The patient recovered.

Case 7.—J. C., unconscious; pupils equal and reacted; pulse 68, respiration 18, temperature not stated. A hematoma was found situated in the region of the right parietal eminence. Incision showed a linear fracture. The Babinski sign was present on the right side. Operation revealed a linear fracture of the right temporal bone with presence of an epidural clot. The patient recovered.

Case 8.—S. C.; unconscious; pulse 100, respiration 24, temperature 99 F.; pupils unequal; right pupil dilated; both pupils reacted; eyes deviated to the left. Hematoma of the vertex was found and incised, revealing a depressed fracture. Operation was performed. The fragments of bone had caused a laceration of the longitudinal sinus. The patient died.

Case 9.—W. W., aged 64, unconscious; pupils were unequal; reacted. Incision of hematoma in left parietal region showed linear fracture in region of left parietal eminence. The patient recovered without operation. The condition of the paralyzed side of the body at time of discharge was not stated.

Case 10.—N. U.; unconscious; hemorrhage from right ear; pupils were unequal; deep reflexes absent on both sides of body; paralysis of left side of body. A depressed fracture of frontal bone was found, associated with a linear fracture of the base. Patient was operated on and recovered. Condition of paralyzed side at time of discharge was not stated.

Case 11.—The patient was conscious. A laceration was found in the right supra-orbital region; pupils were unequal and reacted sluggishly; Babinski's sign was present on the left side; paralysis of left arm and leg. Operation showed a depressed fracture of the frontal bone, with presence of an epidural clot in the parietal region. The patient recovered.

Case 12.—Patient unconscious; pupils contracted and fixed. A hematoma situated in the left parietal region was incised and a depressed fracture found. There was a paralysis of the right side of the body. The patient died shortly after admittance.

Case 13.—M. G., unconscious; pupils equal and reacted; pulse 122, respirations 22, temperature 101; paralysis of right side of body. Patient talked incoherently; died within a few hours after admission.

COMMENT

It is surprising to what extent the brain may be crushed and compressed without producing focal signs or permanent paralysis. Hemiplegia following cranial injury is a very serious complication. Six of the thirteen patients died, although the mortality of the patients operated on was only 33⅓ per cent. Ransohoff's[1] mention that the prognosis of fracture of the skull is more favorable in the conscious patients is corroborated by the findings in six hundred cases studied. Only two of the hemiplegic patients were conscious at time of admission, and both recovered. On the contrary, however, the patient with a fracture may be admitted in a conscious condition and thirty minutes thereafter may become dazed and lapse into unconsciousness and die within ten minutes. This is especially true of the patients who are partially intoxicated.

In two of the thirteen cases the fracture and the paralysis were on the same side of the body. Four of the patients presented equal pupils that reacted to light. In four cases the pupils were unequal but both pupils reacted. It is interesting to note that only two of the patients presented a hemorrhage from the ear and both recovered. The development of paralysis following cerebellar laceration is worthy of mention. The treatment of hemiplegia following fracture of the skull is too well known to require comment. Early surgical intervention saves the most lives.

4826 Delmar Avenue.

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[1] Ann. Surg., June, 1910.

HYPERPLASTIC TUBERCULOSIS OF THE CECUM AND COLON

REPORT OF CASE

N. P. WALKER, M.D.
MILLEDGEVILLE, GA.

Cases of hyperplastic tuberculosis of the cecum are still rare enough to be of interest; hence the following case is recorded.

Patient.—F. H., colored woman, aged 30, was admitted to the State Sanitarium Aug. 15, 1905; weight 121 pounds; height 5 feet 10 inches; pupils rather small but react normally; patella reflexes increased; pulse temporarily increased; some suppression of breath sounds over left apex; abdomen soft and lax; external genitals congested; laceration of the cervix and perineum. Mental diagnosis, dementia præcox. The patient was inclined to be seclusive and did not enter into voluntary conversation as a rule. She took no interest in her surroundings and was untidy, but not filthy. The family and personal history as obtained from the patient was not reliable. The following notes were made on physical condition from time to time.

Course of Disease.—Feb. 12, 1906: Chain of enlarged glands on left side of neck extending down behind the clavicle; expansion lags on left; no râles; no known cough or night sweats. Temperature 98.6 to 100.4 F. in axilla. Tuberculous adenitis and suspected pulmonary involvement.

Feb. 17, 1906: Diminished expansion; slight elevation of percussion note and harsh breath sounds over left apex; no râles; some enlargement of glands on both sides of neck and under chin; feet somewhat swollen; liver dulness increased downwards; urine showed trace of albumin; occasional hyaline cast; few pus cells.

Feb. 29, 1906: Irregular elevation of temperature; the patient did not cough during the daytime; some blood-stained sputum found in her room in the morning; temperature 101 F.; positive diagnosis of pulmonary tuberculosis made and patient removed to the tuberculosis ward. Weight, 88 pounds.

March 3, 1906: For the past several days temperature was 96.4 F. (axilla); pulse 88 to 100; respiration 14 to 18.

March 28, 1906: Some non-localized pain in abdomen; bowel movements normal; considerable amount of fluid in abdomen which was apparently partially encysted. The patient was confined to bed, but there was no edema of face, feet, or hands; pleuro-pericardial rub; faint systolic murmur heard at the aortic interspace.

June 8, 1906: There was considerable improvement in general condition of patient; abdomen rather flabby but apparently contained a small amount of fluid; glands in neck were not quite so large; some physical signs over left apex; no fever or cough.

From above date the patient presented no symptoms of active pulmonary lesion and the abdomen became apparently normal. Owing to urgent need of room on the tuberculosis ward the patient was removed to the regular wards on March 4, 1907. The glands were still somewhat enlarged, but the pulmonary lesion had been in state of arrest for many months. The abdomen was apparently normal. From the first month of treatment on the tuberculosis ward until the patient was removed one year later there was a gradual and marked increase in weight each month. At time of removal she weighed 172 pounds, a net gain of 84 pounds.

Jan. 15, 1908: The patient was put to bed one week since on account of dysentery; stools numbered five or six per day and contained blood and mucus. Emaciation was marked; slight cough and night sweats. Physical examination of the chest was negative.

Aug. 5, 1908: The patient put to bed about one month since on account of condition of bowels. The stools at first contained some blood and mucus. This quickly disappeared, but the number of movements continued from two to four daily and were watery in character. The liver dulness extended almost to the level of the umbilicus. On the right a tumor mass was felt. It was about 2½ inches above and slightly to the inner side of the anterior superior spine, its upper margin being on a level with the lower margin of the umbilicus. The mass was hard, somewhat irregular in outline, and only slightly tender. It could be moved upward, downward, and inward to the extent of about two inches each way. It was apparently a growth connected with the cecum. There were marked emaciation, cough, night sweats, and fever chiefly at night; temperature reaching 101. A few fine and moist râles were heard over the left apex. Diagnosis, recurrence of pulmonary tuberculosis; abdominal tumor; probably tuberculosis of cecum. The patient was removed to tuberculosis ward; weight, 85 pounds.

From the above date until June 20, 1909, there was a slight but steady gain in weight at which time the patient weighed 114 pounds. From June until the day of operation, Feb. 12, 1910, there was some fluctuation in weight, with a net loss of three pounds.

During this interval the patient was kept in bed the greater portion of the time. There was no diarrhea, the bowel movements being normally formed. The patient vomited only a few times, usually at night. She was given light diet in addition to milk. On one occasion the patient vomited dinner about ten minutes after its ingestion. The tumor became more tender and the patient often complained of pain in the region of the mass.

Operation.—Feb. 12, 1910, an operation was performed by Drs. Garrard and Cline. The following note was made by Dr. Garrard: "Mass in right side found to be very strongly adherent to the parietal peritoneum. The mass delivered with difficulty in the median line, the friable intestine being opened in doing so. Cecum with portion of ascending colon resected. The ileum and ascending colon united with Murphy button. Drainage with rubber tube. Operation lasted two hours and ten minutes. Patient removed from table with pulse 140. The walls of the excised intestine were greatly thickened. The opening in the intestine was about the size of an ordinary pencil."

Macroscopic Examination of Specimen.—Pathologic report by Dr. J. H. Hewitt: "The specimen consists of a cecum and a portion of the ascending colon, the whole being about 15 cm. in length. The wall of the intestine is markedly thickened, especially as to its mucosa and submucosal tissue. In the upper portion there is an indurated fibrous mass the size of a robin's egg."

Microscopic Examination.—"The mucous surface shows the tubules moderately thinned out and great increase in intertubular connective tissue and round-cell infiltration. The wall is swollen and edematous and more or less infiltrated with small round cells. In several places along the border-line between the submucosa and the circular muscular layer there are collections of epithelioid cells surrounded by a ring of small round cells. Along the border-line between the epithelioid and round cells, and in among the round cells are several giant-cells. The muscle layers are swollen and edematous and more or less infiltrated with round cells. The peritoneal coat is thickened. It shows collections of small round-cells and giant-cells. Diagnosis: Chronic typhlitis; interstitial tuberculous typhlitis; chronic adhesive tuberculous peritonitis."

Postoperative History.—Convalescence was protracted and tedious; pulse often reaching 150; temperature 101.4 F. February 13, it gradually declined until normal was reached on the 14th. February 20 pus was found to be present in the wound; but temperature did not go above 99.4 F. The button was removed from the rectum on March 11. On March 17 it was believed that a small abscess had formed in abdominal wall and a counter-incision under *cocain* was made. A fecal fistula resulted. The temperature again rose and reached 101.4 F. on March 18. From this date there was a gradual decline until normal was reached on March 20. There was only a very slight rise in the pulse-rate.

On May 20 the patient was again returned to the tuberculosis ward; weight 106 pounds. There were two fistulas present. The one following the second operation healed in a short time.

Jan. 4, 1910: The patient's weight was 140 pounds; glands in neck barely palpable; limitation of expansion over left apex;

friction sound heard at the sternum in the third right interspace, also heard in the axilla; both fistulas open; very slight discharge. Liver dulness extended three fingers' breadths below costal cartilage; there was a hard nodular mass about the size of a walnut in left iliac region; the abdomen was full, rather prominent; some tenderness over the region of the uterus.

Jan. 24, 1911: General nutrition was good; no subjective complaints; abdomen prominent; non-sensitive; the nodular mass in left side still present; both fistulas healed; bowels *normal*.

I believe that the initial lesion began almost four years before operation. Diarrhea was not present for several months prior to operation. Alternation of constipation with diarrhea appears to be the rule in such cases. Vomiting was infrequent, which appears to be rather remarkable when the degree of stenosis is considered. The colon was markedly thickened at the point of resection, and the probability of further stenosis is to be considered. Pain was not such a prominent feature as is usually the case. The patient's mental condition may account for this in part, however.

OBSCURE CASE OF TRAUMATIC SUBDURAL HEMORRHAGE WITHOUT FRACTURE

MEYER SOLOMON, M.D.
Junior Assistant Physician, Government Hospital for the Insane
WASHINGTON, D. C.

In his article on "Pathology of Intracranial Hemorrhage" Spiller[1] says: "Subdural hemorrhage has been more frequent in my experience than epidural, and I have repeatedly seen a hemorrhage beneath the cerebral dura as a result of injuries to the head in cases where the skull was not fractured. This occurrence is important to remember, and sometimes the discovery of the subdural hemorrhage comes as a surprise to the operator."

DaCosta[2] says that subdural hemorrhage is usually due to depressed fracture and rupture of the middle meningeal artery, or of a number of small vessels.

According to Church and Peterson,[3] Cruveilhier asserts that in one-third of the cases of asphyxiated new-born, subdural hemorrhage is the main difficulty. The clots are commonly found over the convexity, and are, in surviving cases, a pregnant source of idiocy and cerebral palsy.

According to DaCosta,[2] "most cases of cerebral palsy seen in children are the result of subdural and subarachnoid hemorrhage at birth, and damage of the cortical motor area. The hemorrhage, in cases of birth palsy, is, as Cushing points out, usually venous and due to 'rupture of some of the delicate and poorly supported venous radicles of the cerebral cortex.' It may result from traumatism due to bone overlapping or forceps pressure during parturition, or may arise during asphyxia after birth."

In examining still-born infants and infants that died shortly after birth, Cushing[4] found that many of them died with cortical hemorrhage. In some cases the extravasations found were very large—even completely overlying the cerebral hemisphere, while in others they were found to be much smaller. In one case the clot was found in the cerebellar fossa. It was found that the vessels were most usually torn on only one side and were the unsupported radicles which enter the longitudinal sinus; hence the cortical leg center of one side is most apt to be seriously damaged. When, however, the vessels of both sides are torn, a bilateral cortical lesion results.

Cushing himself,[5] speaking of traumatic subdural hemorrhage in adults, says:

> Bleeding in the free space between the dura and arachnoid is possibly a more common consequence of injuries than the extradural form. It is a frequent complication of basal fractures, for, owing to the close attachment of the basal dura these injuries almost always tear the membrane so that the bleeding from the fissured bone has free access to the subdural space. Similarly, fractures of the vault, accompanied by laceration of the dura, lead to extravasations over the hemisphere. The extravasation, however, *may occur from an injury* of some cortical or leptomeningeal vessel in cases of fracture with laceration of the brain, or, indeed, in the absence of any demonstrable cranial lesion.

He also points out that the usual type of such extravasations is a diffuse one, this being particularly so in its basal form. The blood spreads through the open subdural space, and as the arachnoid membrane overlying the basal cisterns is frequently torn by the injury the bleeding extends over the brain stem and down along the cord, where the subarachnoid space is open, and no a closely confined meshwork as it is over the hemisphere For this reason free red blood-corpuscles in the cerebrospinal fluid will often be found on lumbar puncture Cushing adds, however, that, "although this diffuse form of bleeding is perhaps the most common, as well as the most critical type of subdural hemorrhage, one no uncommonly sees, particularly over the hemispheres extravasations in this space, which have remained circumscribed owing to the rapid clotting of the blood.' These subdural extravasations are usually of venou rather than of arterial origin.

The symptoms of a subdural hemorrhage, accordin to Cushing, differ but little from those associated wit an acute increase of intracranial tension from any cause "Although in the rarer cases of intracranial and superficial clot formation, there may be localizing signs pointing to the seat of the process, the symptoms are usuall those of a generalized compression." The lesion, h continues, results from a serious cranial injury, and th clinical picture is one of cerebral contusion with cor pression. We find the patient unconscious, medulla symptoms almost always present, the blood-pressure h during the early stages, the pulse slow, the respirati labored, and, as stupor passes into coma, Cheyne-Stoke breathing sets in, and finally the paralytic stage o compression comes on.

It is on account of the free extravasation into th subdural space that most of the cases of basal fractur prove fatal. In some instances, however, the amount o extravasation may be so slight, that, although blood fluid may be obtained on lumbar puncture, no reall serious pressure symptoms are produced. A choked dis is said to be almost always present.

It must be remembered, however, that although th symptoms of subdural hemorrhage are identical wit those of extradural, they are usually very rapid in onse and are accompanied by a more distinct drop in temperature and graver depression. No focal symptoms ar produced unless the hemorrhage arises from or presse on the motor area, when convulsions, or later, paralysis may ensue.

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[1] Spiller: Intracranial Hemorrhage, in Keen's Surgery, 1907, ii, 654.

[2] DaCosta: Modern Surgery, 1910, p. 805.

[3] Church and Peterson: Nervous and Mental Diseases, 1909, p. 75.

[4] Cushing: Intracranial Hemorrhage in the New-Born, Am. Jour. Med. Sc., October, 1905

[5] Cushing: Surgery of the Head, Keen's Surgery, 1907, ii 206-209.

In brief, the main points in favor of a diagnosis of subdural rather than extradural hemorrhage are:

1. Subdural hemorrhage is the most common form of intracranial hemorrhage in the new-born.
2. It is frequently associated with depressed, and more especially, with basal fractures of the skull.
3. It is characterized by an absence of the periods of concussion and "free interval," and by the rapid onset of symptoms.
4. The symptoms are usually those of a generalized compression, with marked depression and unconsciousness, practically from the very first, and the almost invariable presence of medullary symptoms.
5. The presence of blood in the cerebrospinal fluid on lumbar puncture.

A case somewhat similar to mine is reported by Cushing. A patient was injured in a football scrimmage. There was primary concussion, followed by an actual "free interval," and the appearance of focal symptoms which pointed toward a local compression over the left lower central convolution. A diagnosis of extradural hemorrhage was, of course, made. Cushing's favorite intermusculotemporal operation was performed. No fracture of the base could be demonstrated, nor was there any extradural hemorrhage found; but there was a subdural lens-shaped clot analogous to an extradural hematoma. Removal of the clot led to prompt recovery. Cushing says that cases of this sort, however, are rare, and the surgeon is usually confronted with extensive basal extravasation.

The case of traumatic subdural hemorrhage here reported is one of more than usual interest because of the following points:

1. The occurrence of a primary injury which caused a simple incised wound of the scalp and probably resulted in nothing more than a momentary stunning.
2. The presence of a "free interval" of unusually long duration (*ten days*) from the original injury to the onset of the first symptoms of compression. This initial injury and the subsequent "free interval," are, it is to be noted, considered characteristic of extradural bleeding, but have here occurred in subdural hemorrhage.
3. The absence of any fracture of the skull.
4. The absence, except for dilated, immobile pupil on the side of the hemorrhage, of any definite focal symptoms which might have given a clue to the location of the hemorrhage, although as found post mortem, the hemorrhage was practically localized to the convex surface of the frontal lobe, with extension backward to the region of the occipital lobe.
5. The localization just described.
6. The finding at autopsy of the presence of almost completely fluid blood—which may be accountable for the last-mentioned condition.
7. The absence of macroscopic blood in the excessive basal cerebrospinal fluid.

Unfortunately a lumbar puncture was not performed, but this, as proved by post-mortem findings, would have been free from any blood.

REPORT OF CASE

History.—M. G., a white man, aged 37, for past five years has been a patient in the Government Hospital for the Insane, suffering from the katatonic form of dementia præcox. He would wander mischievously and annoyingly about the ward, picking away stupidly and mutely at the other patients.

Oct. 29, 1910, at 8:15 a. m., in a scuffle with a fellow-patient, our patient was forcibly shoved, and in falling, struck his head against the sharp edge of a heavy wooden settee, receiving a simple incised wound of the scalp about one inch long, just above the right temple. It did not require stitching and was apparently not associated with fracture. The area about the wound was shaved, the wound thoroughly cleansed, and a collodion dressing was applied. The patient did not seem stunned at the time of the injury and continued to be up and about in the ward as usual.

When he went to bed on the evening of November 7, he seemed to be in his usual physical condition. When taken out of bed for dressing on the morning of November 8 (ten days after the scalp wound was received), the patient seemed to be very weak and so was put back to bed by the attendant in charge. A little later he had an attack of vomiting; temperature was 97 F. by axilla, pulse 60, regular and full, respiration 14. At 8 a. m. he seemed to be very dull; his legs and arms jerked slightly and his breathing was labored. At 11 a. m. he was semiconscious, resistant, and held his arms rigid; knee-jerks were active, pupils normal. The patient passed urine and feces involuntarily. Intracranial hemorrhage was suspected. Hot soapsuds enema was ordered. At 12 a. m. temperature was 96.6 F. by axilla, respiration 24, pulse 60.

Patient grew more and more stuporous and gradually lapsed into deepening unconsciousness. At 4 p. m. he was absolutely unconscious; both pupils were fixed and failed to react to direct light; right pupil markedly dilated, tendon reflexes active, extremities limp, skin sensation lowered. Babinski reaction obtained now and then on both sides, but irregular in response. Respiration very slow (12), regular, quiet, but deep. Pulse down to 50 per minute; regular in rate and force; full volume; temperature by rectum, 96.2 F.; bed was wet from involuntary evacuation of urine. Patient could not be aroused. The entire scalp was shaved, but examination failed to reveal any signs of fracture. The scalp wound received ten days previously almost healed. A positive diagnosis of intracranial hemorrhage was made, but the exact site of the hemorrhage was not determined. Operation was proposed to the patient's wife, but she refused consent.

At 6:45 p. m. temperature by rectum was 97.6 F., pulse 48, full, regular, and strong, respiration 15, deep, quiet and regular. Examination at this hour showed lacrimation from right eye, signs of hemorrhage from nose on right side (clotted blood being found in right anterior nares), but no signs of fracture of nose, so far as could be detected; pupils still absolutely fixed, the right being considerably dilated, the left somewhat contracted. Ophthalmoscopic examination of right eye showed outline of disk distinct and sharply defined, with no hemorrhages. Skin reflexes were almost absent; elbow and knee-jerks increased on both sides; no ankle- or patellar clonus. The Babinski phenomenon now showed an even more marked, peculiar variability and irregularity, being present first on both sides, then more on one side than the other, and then vice versa, only to change again. Sensation was very much delayed. Very deep pin-pricks were required to elicit a response, and then only after an unusually long period. Contralateral adductor reflex could be obtained by stroking the skin on the inner side of the thigh on either side. There was a tendency on the part of the patient, to stiffen the extremities and rotate them inward, bringing the knees and elbows together. There was an intermittent tremor of the right hand, and a tendency to contract the quadriceps extensor. Kernig's sign was absent. The patient lay absolutely calm and perfectly unconscious; breathing not stertorous.

At 1 a. m. the patient's condition was unchanged, but after 2 a. m. he began to weaken; his pulse became feeble, respiration was down to 6, and death occurred at 3:40 a. m.—only twenty-two hours after the first symptoms were observed.

Necropsy.—The bladder was somewhat distended; the colon very much distended throughout. The spleen and kidneys were somewhat congested. The cardiovascular and respiratory systems seemed normal. There was a scalp wound about one inch long, one inch to right of middle line, on a line with the zygoma. This did not extend through the scalp for more than one-fourth its thickness. There was no fracture of the skull in any part, although after removing the brain, the dura was stripped and the base of the skull carefully examined.

Brain: On the right side, over the convex surface of the brain, there was a flat subdural hemorrhage. Both the dura and the pia-arachnoid were intact, but the pia-arachnoid was very much engorged. The bleeding vessels could not be found, but the blood was almost wholly fluid, with some slight, fresh soft clot, and it seemed to be mainly of venous rather than arterial origin. The blood did not extend to the base nor on to the mesial surface, being confined mainly to the convex surface of the frontal lobe, though extending backward in a thin layer, nearly to the occipital lobe. The surface of the frontal lobe, especially about its middle, was considerably depressed. This depression was so marked, that, as a result, the right ventricle was very much flattened, and contained but little cerebrospinal fluid, while there was an excess of fluid at the base, about the origin of the pons. This fluid was perfectly clear and contained no blood. There was no laceration of the brain surface, and, on sectional examination, no intracerebral injury was found.

ELECTRIC TREATMENT OF INTESTINAL OBSTRUCTION AND POSTOPERATIVE PARALYSIS OF THE BOWEL

WILLIAM H. DIEFFENBACH, M.D.
NEW YORK

Intestinal obstruction and postoperative paralysis of the bowel are of such grave moment that a clinical note on this subject offering a new technic in its treatment has warrant for its publication. The method consists essentially in the employment of half-normal saline enemas in conjunction with a hollow rectal electrode connected with the galvanic current, followed later, if necessary, by faradization.

The conditions in which this treatment is useful are as follows:

1. Chronic constipation with impaction of feces.
2. Atony of the bowel.
3. Traumatic, localized and general peritonitis with intestinal stasis.
4. Intestinal torpor after shock.
5. Slight volvulus or kinks in the bowel after prolonged manipulation, and chilling of the bowel following laparotomies.
6. Intestinal paralysis after prolonged meteorism.
7. Intestinal paralysis following various forms of hernia.

The conditions in which the treatment is of doubtful or negative value are the following:

1. Intussusception.
2. Stricture of the bowel.
3. Adhesive bands about the intestines.
4. Malignant growths involving the bowel.
5. Tumors impinging on the lumen of the intestines.

In these cases surgery must be invoked, and the electric treatment can be subsequently employed for its stimulation on peristalsis.

TECHNIC

1. The nurse prepares the bed with rubber sheets and padding to prevent leakage to the mattress, and a moderately flat and long bed-pan is placed under the buttocks.

2. While the preparation is going on it has been my custom to advocate lavage of the stomach with a quart of weak saline solution (half-normal strength) at 105 F. so as to clear the stomach of mucus, bile or other debris, and check vomiting, which is usually present in these cases. Lavage also has a tendency to start downward peristalsis, especially if a small amount of liquid is left in the stomach for absorption.

3. Three or four quarts of one-half strength normal saline solution at a temperature of 105 to 110 F. is prepared and kept hot on a radiator or stove.

4. The rectal electrode, well lubricated, has attached to its distal end the rheophore connected with the negative pole of the galvanic battery and the central orifice of the electrode connects with a Davidson syringe. The electrode is introduced into the rectum as far as it will go and one quart of the fluid is slowly injected.

5. A large sponge or felt electrode, at least 4 by 6 inches, well moistened in sterile or mild antiseptic solution, is connected with the positive pole and placed over the right hypogastrium so as to cover the ascending colon, and an assistant makes firm and even pressure on it, and if necessary remoistens the electrode. This pole may be shifted to the transverse colon and in some cases to the descending colon, but in the latter case its sphere of action will be over but a small portion of the bowel.

6. The galvanic rheostat is slowly moved until 10 to 15 M.A. are registered; after three minutes of electrolysis with liberation of chlorin ions which tend to relax tissues, the pole is reversed and the pole-changer kept going for from five to ten minutes more, reversing every thirty seconds. This interruption of the current produces marked contraction of the whole musculature of the abdomen and intestines and usually produces peristalsis and a desire for evacuation. If this desire is strongly expressed, the electrode can be temporarily removed and the patient given a chance to evacuate feces or expel gas. Unless the evacuation has been eminently satisfactory, some more of the saline is again injected, and following the interrupted galvanic treatment, the attachment of the rheophores is made to the high-tension faradic coil and the current manipulated through the secondary coil so as to produce a gradually increasing, then diminishing, contractile effect. The faradic treatment is given as strongly as the patient can stand without much distress, and is continued for five minutes. The withdrawal of the electrode is then usually followed by expulsion of fluid, feces and gas.

7. After the electric treatment, the bed-pan is removed and the head of the bed elevated so that the patient is placed in an inclined position of from 25 to 45 degrees, so as to favor normal peristalsis. This is an important point in technic and should not be omitted. This position has been maintained in several cases for three days before recurring meteorism was checked.

8. Following the treatment, normal saline retention enemas, one quart at 105 to 110 F., are given every two hours until normal conditions supervene.

9. Repetition of the treatment is necessary in many cases. In one case which refused to respond, the sixth treatment, given after repeated failures during forty-eight hours, at last caused profuse evacuation. It is usual, when the condition is grave, to rest the patient for three hours before repeating the treatment. In chronic constipation or impaction a longer period (six to twelve hours) may be permitted to elapse before repeating the course of treatment.

I have been called to a large number of these patients when they were practically *in extremis*, and when all varieties of enemas, stupes and drugs had been tried. Even in such desperate straits the electric enema has, in a fair percentage of cases, proved successful.

It cannot be emphasized too strongly that the earlier the electric enema is given in all cases, the better the prospects for success. When meteorism develops and bowel movement is not produced by the usual enema and other remedies, every hour lost with the use of turpentine, alum, asafetida and other enemas merely weakens the reactive power of the bowel and renders regeneration by means of the electric current more difficult.

The battery used in these cases consists of a twenty-four dry-cell apparatus with galvanic and faradic (high tension) attachments, rheostat and milammeter, and is readily portable to the bedside.

1748 Broadway.

BACILLUS AEROGENES CAPSULATUS INFECTIONS, WITH REPORT OF TEN CASES

WALTER R. HEWITT, M.D.
Resident Physician, St. Louis City Hospital
ST. LOUIS

This infection is interesting because of the high death-rate and the frequency with which the condition is overlooked until too late for surgical interference. It is looked on as a rare condition, though it is more frequent than one would suppose. There have been three cases at the City Hospital since June 1, 1910, with three recoveries.

To Maissonneuve and Pirogoff is due the credit for the first clinical descriptions of the disease. Maissonneuve, writing in 1853, called the disease *gangrène foudroyante,* but it was not until 1891 that Dr. Welch discovered and described the organism. There has been much confusion as regards this organism and its pathologic processes, even the latest text-books giving little space to a clear description of this definite infection and its danger to life.

The most frequent sources from which the organisms may be obtained are the intestinal tracts of mammals and the soil, although Welch (1896) recovered it from a bullet in the head of the tibia.

The organism (*Bacillus aerogenes capsulatus*) normally grows in the absence of oxygen, although Lahey[1] demonstrated that the *B. a. c.* may grow on culture media in the presence of oxygen.

SYMPTOMS

There seem to be three principal types of the infection; namely, simple, fulminating, and mixed.

The incubation period, as nearly as could be ascertained in ten cases, was forty-eight hours. In one case it was twenty-one hours (Case 10). In the simple cases, there is slight rise in temperature and pulse, the patient appears seriously ill, and there is a dark, almost black, bloody discharge, which resembles a thin syrup. This discharge usually brings out a few small bubbles, and leaves us wondering what infection is present. *Pus is not present.*

The fulminating or malignant type depends on the severity, virulence and site of the infection, and not only affords the best opportunities for study of pathologic processes, but soon convinces one that something radical must be done and done quickly. In this type the patient is usually found with high temperature (103-104 F.) and rapid pulse (130-150), with rapid respiration (30-40 per minute), and appears critically ill. *B. a. c.* infection occurs most ofen after injuries in which tissues are pulpified and very dirty. About forty-eight hours afterward, when the wound is dressed, a dark, thin, syrupy, foul-smelling discharge escapes with gas bubbles.

The fulminating type on the leg may take on the appearance of an erysipelatous condition, though without raised borders, there being a dark or brownish discoloration. This was the condition in Case 7, plus a lymphangitis, which was at first deceptive. Blebs of variable sizes are frequently present and soon take on a blue or greenish appearance. When opened, the characteristic, foul-smelling fluid with its sweetish odor, becomes apparent. If an extremity is involved, it rapidly becomes gangrenous and distended with gas of a composition of hydrogen 64.3, carbon dioxid 27.6 and nitrogen 8.1 (burning with a pale blue flame). This was the clue to the diagnosis in Case 9, although the diagnosis was suspected from the early rise in temperature (first twenty-one hours) and the history of injury. Cultures will show the presence of organism, but with a clear clinical picture operation should be undertaken at once.

Pain was absent in all except Case 10. Here the patient's pain became very great, and as he was not furnished relief by morphin, after three attempts to get consent to operation had failed, he finally consented to amputation, which was done, and he recovered. (Blake and Lahey explain the absence of pain on the ground of the necrosing action of *B. a. c.* interfering with nerve conductivity, although the presence of gas and distention, as I believe, with its mechanical effect, must not be forgotten. A sort of anesthesia is produced.)

Delirium occurs late, after the general infection, and persists till death. In Case 4, delirium was so great that diagnosis of delirium tremens and infection was made.

Within seventy-two hours, toxemia is pronounced, and I agree with Blake and Lahey that recovery is not the rule after the third day.

Nausea and vomiting occur late, and, like delirium, are indicative of generalized infection.

The process extends chiefly by direct extension, as the gas separates and dissects between muscle and fascial planes and follows the lines of least resistance.

The lymph-glands are seldom enlarged and tender, and only when other organisms are present, as the streptococcus (Case 10). The rapidity with which the process ascends a limb probably accounts also in part for the frequency of non-involvement of lymph-glands.

Emphysema or crepitus was elicited in Cases 2, 3, 4, 5, 7, 8 and 9, and in one case gas escaped with a noise. In Case 1, a tympanitic note was elicited on percussion.

Fascia, tendons and ligaments resist infection strongly. Muscle, especially pulpified muscle, affords a flourishing site for the infection. At the wound site, the tissues are soft, friable and pulplike: while beyond, the tissues are pale and edematous, contain small amounts of gas, and are rapidly being converted into a pulpified state.

Mixed infections, whether streptococcus or staphylococcus, in which infection remains at the site of inoculation, are usually mild.

TREATMENT

Treatment is always operative unless there is a generalized infection.

In the presence of general infection, the free opening of the wound, with hydrogen peroxid as a dressing should be tried. If a leg or thigh is involved, spinal anesthesia may be used.

There are, however, two recognized methods of treatment—amputation and multiple incisions. *Amputation* is the operation of choice in all malignant cases, as it offers good chance for recovery. What one of us would care to treat such cases with multiple incisions and hydrogen peroxid in view of the fact that oxygen does not always kill the organisms (Lahey) and in these cases the organisms are far from the original site of the wound and hydrogen peroxid cannot reach them. Of course, in a simple case, multiple incision and hydrogen peroxid might be tried, and even oxygen carried into the wound with catheter. Under careful observation if amputation is performed when advance takes place, recovery may be expected.

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[1] Blake, J. B., and Lahey, F. H.: Infections Due to the Bacillus Aerogenes Capsulatus, The Journal A. M. A., May 21, 1910, p. 1671.

Of course, an occasional limb may be sacrificed with amputation, but what when we try multiple incisions and find later a dead patient?

In my series of cases, three patients recovered (all in cases of malignant type and developing within forty-eight hours) after amputation, one leg and two arms being sacrificed. In cases recovering under multiple incision and hydrogen peroxid treatment, might not there be some other gas-producing organism?

In this series of cases, Patient 3 was of necessity treated with multiple incisions, as the infection involved the trunk. The patient promptly died, as infection was general.

PROPHYLAXIS

Ordinary antiseptics, tincture of iodin, bichlorid, etc., have little or no effect on the organism, as I have seen cases develop after vigorous treatment with these antiseptics.

CASE REPORTS

CASE 1.—H. H., a carpenter, aged 56 (No. 5776), was admitted Nov. 16, 1906. This patient was accidentally shot November 18 in a tent while on a hunting trip. He was treated by Drs. Taylor and Pickel of Festus, Mo., who forwarded him to St. Louis for treatment. The patient's condition when seen by them was as follows:

"The soft tissues were nearly all shot away just above the ankle. Both bones were badly shattered. The foot was connected with the leg only by a narrow strip of skin and some fragments of muscle. It was not dressed in any way except in the blanket that the patient was lying on. There was no dirt in the wound, more than would naturally get into it from the bedding, which was not very clean. There had been no attempt made to control hemorrhage; consequently he had lost about all that he was able to stand. He was in a state of considerable shock, so that only a trimming of the remaining shreds of tissue was performed, and bleeding points ligated. No attempt made to disinfect the wound, other than to apply a 2.5 per cent. solution of phenol (carbolic acid) and get him to the hospital as soon as possible.

The doctors at Festus were of the opinion that the infection came from the blanket in which his leg was wrapped.

When he arrived at the St. Louis City Hospital, it was found that he had a ragged amputation of the left leg four inches above ankle-joint, with much laceration of soft tissue and comminution of bones. The patient arrived at the hospital at 8:30 in the evening, having been injured about eleven in the morning of the same day. Hemorrhage had ceased when he arrived at the hospital. The leg was shaved and cleansed, put in a large saline pack without much effort to trim away the ragged tissues. Patient complained of weakness and thirst; pulse was almost imperceptible; temperature subnormal. Salt solution, by hypodermoclysis was given; external heat; patient placed in bed; antitetanic serum given; condition bad; pulse 120, respirations 24, temperature 97.2 F. Urinalysis revealed the presence of albumin and a great many hyaline and finely and coarsely granular casts.

Within twenty-four hours after the accident, amputation was performed in the middle third of the leg, the circular flap method being used. After being in the ward sixteen hours, a peculiar, stinking, sweetish odor was noticed about the patient, and on dressing the wound it was found to be discolored. Blood-culture was positive.

On the night of November 18 the patient was beginning to show symptoms of general infection, pulse 150, respiration 50, very shallow and mostly abdominal. The patient complained of pain in the abdomen and over the epigastric region. The abdomen was distended and soft, and over the left lower quadrant was a soft, fluctuating crepitus. The same condition was present over the left thigh, but in a more marked degree. The surgical wound with its dressing was not disturbed.

The patient at 3 o'clock in the afternoon complained of great difficulty in breathing. At 3:25 p. m. the patient was sinking rapidly, the heart failing to respond, although he was delirious and trying to get out of bed. The patient lost consciousness about 4 p. m., showing evidences of air-hunger, gasping for air. The heart-beat was not palpable; small, thready pulse. Patient died at 4:22 p. m., November 19, three days after admission.

This was a very virulent infection, traveling up the leg very rapidly. In a few hours, it had extended up as far as the neck, death following. Post-mortem findings were as follows:

Gangrenous emphysematous stump, universal emphysema of the subcutaneous tissues, emphysema of the heart, lungs, liver, kidneys and spleen, acute enlargement of the spleen, congestion and edema of the lungs, and a foamy condition of organs.

This case is interesting as showing another source of infection: that of a gunshot wound; it also shows that great loss of blood and pulpification of tissue influence an early appearance of the infection on account of the patient having practically no resistance. The case was an early, malignant type with general infection.

CASE 2.—M. N., a laborer, aged 41 (No. 6642), entered Nov. 30, 1907, with a history of having been run over by a locomotive. As a result, both legs from a few inches below the knees to above the shoe-tops were pulpified. The wounds were dirty. An emergency trimming operation was performed. Pulse at this time was 106, respirations 24, temperature 99 F. Antiseptics used in first-aid treatment were bichlorid, tincture of iodin, and turpentine.

On the morning of December 3, patient developed a high temperature, rapid pulse and signs of severe shock. Bichlorid pack was applied at this time. On the morning of December 4, an offensive, characteristic sweetish odor was present. There was some emphysema of the left thigh. The left thigh at 3 p. m. was greatly distended and tympanitic on percussion. At 6 p. m., the left limb was tense with gas, the gas being found subcutaneously between the fascia and muscle and up in the left groin, and it extended in the midaxillary line nearly to the axilla. Numerous incisions were made, and the gas escaped with a noise. At this time, a bichlorid and turpentine dressing was applied, with a diagnosis of emphysematous gangrene. The patient died at 8:55 p. m., five days after admission, of a general *B. a. c.* infection (clinical).

The patient had become very delirious on the evening of December 3, and delirium persisted until death.

This case is interesting, as it shows the effect of a general infection and the rapidity with which the process advances when it has once started.

CASE 3.—R. S. (permit No. 6701), schoolboy, aged 12, entered Dec. 2, 1907, at 4:40 p. m. The patient gave a history of falling off of a wagon three days previous to entrance, suffering a fracture of the tibia in the upper third, and a long, lacerated wound on the posterior surface of the calf of the left leg. The leg presented a sharply defined, bluish color extending from the ankle to the knee anteriorly and about 2 to 3 inches above the knee on the inner surface. The entire area was studded with blebs, from which a foul-smelling, greenish discharge was escaping. The wound had been closed on the outside by a physician. In the right groin was an area of discoloration 2 by 8 inches, and over the right great trochanter was an abrasion dressed with gauze covered over with collodion. Palpation of the left thigh and groin elicited distinct crepitation—emphysema. The patient died December 3, at 4:12 in the morning, four days after the injury. Delirium in this case appeared on the third day and lasted until the end.

This case shows the effect of sealing dirty wounds and of not observing such a case closely. The clinical diagnosis was made, but there was no report of a blood-culture.

CASE 4.—J. H., a packer, aged 51 (permit No. 5321), was admitted to the hospital Oct. 22, 1908, at 11:05 a. m. He entered the division suffering from an old, compound fracture of the radius and ulna, nervous and very delirious. The diagnosis at this time was delirium tremens and compound fracture of the radius and ulna.

The arm was dark-brown in color, emphysematous throughout, and a foul-smelling discharge was escaping, but no pus. The characteristic sweetish odor was present.

Later, *B. a. c.* infection was added to the diagnosis; blood-culture positive.

The patient died Oct. 22, 1908, at 12:50 p. m. Emergency treatment was given, but could not be extensive in view of the fact that he was suffering from generalized infection.

The comment which I would make on this case is that it brings out the point that the delirium and nervousness may be so great as to cause confusion as to whether or not the patient has delirium tremens.

CASE 5.—D. C., a carriage-worker, aged 56 (permit No. 2657), admitted July 3, 1909; entered the St. Louis City Hospital with a history of severe traumatism, and as a result had a laceration of the head and right shoulder; the right hand was also badly crushed, showing evidence of pulpification, the dirt of the street being ground into the extremity. Blood-culture was positive. The patient died July 7, 1909, at 1:20 p. m., with delirium, nausea, vomiting, nervousness and all the signs of a general infection.

Consent to amputation was not obtained until the second day. Amputation was performed at the lower third of the right forearm with circular incision; skin approximated with three sutures. Drainage. A reduction of the shoulder was performed at this time. The next day ecchymosis was present about the wound, stitches were removed and thorough drainage instituted. On the fourth day, the forearm was badly swollen, discolored, crepitation of the tissues, bacteriologic examination showing presence of the gas bacillus. Incisions were made in the gangrenous area and the arm placed in a saline bath, the patient thoroughly septic.

This was a case, evidently, in which the ecchymosis deceived the physician who was treating the case and in which a high amputation would probably have saved the life..

CASE 6.—J. C. (permit No. 3395), a trackman, aged 45, entered the hospital July 28, 1909, at 11 a. m., suffering from severe crushing injuries of both feet, produced by falling under a moving freight train. He also had a fracture at the middle of the left leg.

Twenty-four hours after entrance, the limb was amputated about seven inches below the knee-joint by the long posterior and short anterior flap method, with careful ligation of vessels and resection of nerves. The skin-flaps were approximated with interrupted silkworm-gut sutures, with provisions for free drainage. The patient was in bad condition at the time of operation, hypodermoclysis being necessary. Moist dressing was applied.

Within thirty-six hours after admission, the symptoms of sepsis (namely, delirium, nausea, and vomiting) appeared. The patient climbed out of bed, and it was necessary to restrain him. The following morning, signs of gas bacillus infection were very evident, the parts being dark, discolored, distended with gas, bubbles escaping, along with a black, bloody discharge. Blood-culture was positive. The antiseptics used in this case were mercury bichlorid, 1-2,000. The patient died July 30, 1909, at 9:40 p. m., nearly sixty hours after entrance.

CASE 7.—F. T. (permit No. 5626), a laborer, aged 20, entered the hospital, Oct. 4, 1909. He gave a history of being hurt in a street-car accident. He had a crushing injury of the left thigh, was in extreme shock, and his condition did not permit of immediate amputation.

Two days after admission, his general condition had improved somewhat, although sepsis was extreme. The leg was very dark, beginning to become gangrenous. It was distended and full of gas. The patient was unable to stand a general anesthetic and, accordingly, with a long, sharp, amputation knife, the calf muscles were severed at the point of fracture, about four inches below the knee-joint, vessels ligated and moist dressing applied. The patient died Oct. 8, 1909, four days after admission.

Like those in the previous cases, this patient died with all the evidences of a general infection, his case being one of those in which the patient could not have stood a high amputation.

CASE 8.—J. P. (permit No. 1868), aged 26, a driver, entered the hospital June 9, 1910, giving a history of being hurt in a runaway. The history of the accident as obtained later from the patient was that the street was an improved one and was very muddy. Examination revealed three lacerated wounds on the middle third of the right leg, with a compound, comminuted fracture of both bones of the left leg in the lower third, with numerous abrasions and contusions of the left foot. There were a few abrasions on the right leg.

Treatment at this time was directed to cleansing and shaving the limb, followed by an alcohol pack and iodin. The leg was placed on a Cabot splint and 1,500 units of tetanus antitoxin administered.

Some twenty-four hours after patient's admission, the temperature rose, pulse became very rapid and the patient complained of some pain. Examination at this time revealed a dark, spreading inflammation, not sharply circumscribed, and without elevated borders. There was bleb formation, and the leg presented signs of beginning gangrene. It was of a dusky color, or brownish hue, and in view of the fact that the patient's leg had been thoroughly rubbed in the dirty street, with the clinical signs as above, we believed that we were dealing with a gas bacillus infection. Cultures were taken, sent to the laboratory, and the following day were reported positive.

Without waiting for report from the laboratory, it was decided that, in order to give the patient a chance for his life, it would be necessary to do a high amputation at the junction of the lower and middle thirds of the thigh. Under a general ether anesthesia, the operation was performed by the circular cuff method. The wound was closed in layers overlapping the bone and two rubber tubes inserted for drainage. The patient left the table suffering from considerable shock. The wound was irrigated daily with hydrogen peroxid, and a hydrogen peroxid dressing applied. The process reached to the junction of the upper with the middle third of the leg, therefore it was necessary to go above the knee-joint.

The patient was discharged June 22, 1910, having made an uneventful recovery.

CASE 9.—W. B. (permit No. 5877), aged 60, a pipecutter, entered the hospital Oct. 20, 1910, giving a history of having been injured by an elevator. Examination showed the right hand almost entirely torn from the arm at the carpal joint. The skin was torn loose around the entire wrist. All the muscles, tendons and nerves were severed, along with most of the vessels on the anterior surface, only those tendons on the posterior surface being intact. The hand was cold and sensation was abolished. The wound was cleansed and skin flaps loosely approximated in the hope that there might be an establishment of circulation. Pulpification of the hand was great.

When first seen by me two days after admission to the hospital, when the hand was dressed, it was found that the tissues presented an appearance very much like that of a gas bacillus infection. The hand was becoming dark in color; there was a foul-smelling, sweetish odor, with a dark, bloody discharge, and a few gas bubbles. Two hours after this, amputation was performed, the hand beginning to crepitate. The anteroposterior flap method was carried out at the junction of the lower with the middle third of the arm. On the following morning, after the operation, the patient's temperature was normal and he was doing well. Healing occurred by first intention, patient being discharged November 21, after having remained in the hospital for three weeks preparatory to finding a home.

Case 10.—G. Y. (permit No. 7853), a laborer, aged 25, entered Dec. 31, 1910. The patient was suffering from a compound fracture of the forearm with laceration and crushing of forearm. There was considerable pulpification.

Temporary treatment was given, but in twenty-one hours gas with a gangrenous process appeared. The forearm was very dark in color and gave off a foul, sweetish odor. There were gas bubbles in the tissues, as shown by crepitation and also by the escape of bubbles. The patient had a high temperature, rapid pulse, was septic and complained of considerable pain.

The patient was informed of his condition on three occasions, it being necessary after thirty-six hours to bring the influence of his relatives to bear on him to obtain consent to operation. It was explained to him, at the time of operation, that the question of saving him was very doubtful on account of the delay.

Under general anesthesia, an anteroposterior flap at the junction of the upper and middle third was made in the usual way. Closure was with interrupted silkworm-gut sutures after irrigating the wound thoroughly with hydrogen peroxid. A rubber tube was inserted in each corner of the flap, and thereafter was daily irrigated with hydrogen peroxid and hydrogen peroxid dressing was applied.

Within twenty-four hours, the patient's temperature had dropped to normal, followed in thirty-eight hours by a rise due to an infection of the wound with a probable staphylococcus infection. All sutures were removed, and hydrogen peroxid and tincture of iodin were freely used. The wound, two weeks after amputation, was clean but required a repair amputation.

In this case, a gas-producing organism was found which in culture media produced gas, but an attempt to segregate it met with failure, although the clinical evidence was unmistakably that of a gas bacillus infection with some contamination with the staphylococcus.

CONCLUSIONS

Early interference, before seventy-two hours, preferably amputation in malignant cases involving extremities, in most cases will mean the saving of life.

Laborers and railroad men are prone to infection, as their wounds are often contaminated with soil.

Infection occurs most frequently from contamination with street dirt, followed by railroad dirt, then elevator dirt, and then intestinal tract discharges. The frequency of street soil infections, I believe, can be explained on ground of contamination with manure. There are two recorded cases in which infection occurred in ischiorectal abscesses, the rarity, it is thought, being due to the fact that these wounds usually are wide open and lined with a layer of granulation tissue, the granulation tissue preventing the free dissection of the gas and the oxygen probably preventing the *B. a. c.* infection.

All wounds contaminated with street or railway dirt should be observed for this infection and treated, if possible, in such a manner as to permit of easy inspection. Hence plaster casts and sealing of wounds should be avoided. Cultures should be made if there is a suspicion of *B. a. c.* infection, and the wound freely opened and treated with hydrogen peroxid or oxygen preparatory to amputation, if necessary. In Case 10, the amputation stump was irrigated through drainage tubes with hydrogen peroxid twice daily for the first two days, although at the time of operation the wound was flooded repeatedly with hydrogen peroxid.

Fall in temperature to normal would seem to indicate the eradication of *B. a. c.* infection, as in Cases 9 and 10.

The disease is only relatively common, as it has occurred at the city hospital on an average of once in about 1,250 surgical cases, and practically always in cases in which there was pulpification of tissues. Since *B. a. c.* infections do not develop in very many or most cases of soil and street contaminated wounds (though often found here), it would seem that pulpification of tissue and injured blood-supply favor *B. a. c.* infection, owing to weak or absent resistance. There is further evidence to this effect, as shown in reported cases with presence of gas bacillus on and in amputation stumps.

Brewer has found that diabetics are prone to infection, and experimentally the *B. a. c.* develop more easily and rapidly in the presence of sugar.

Early diagnosis by definite, clean-cut, clinical pictures, and prompt, radical treatment will materially reduce the death-rate.

Blood-cultures should be made in every case, but treatment should not wait.

I believe that the condition is often unrecognized, and trust that this report will stimulate an interest that will result in more frequent diagnoses of the infection.

AN IMPROVED APPARATUS FOR ESTIMATING THE PRESSURE IN THE CEREBROSPINAL SYSTEM

BURRILL B. CROHN, M.D.
Volunteer Assistant, Pathological Laboratory, Mount Sinai Hospital
NEW YORK CITY

Since the introduction by Quincke[1] of an apparatus for estimating the cerebrospinal pressure, there have been numerous criticisms of the mechanics of the instrument and several attempts have been made, either to modify his apparatus, or to introduce a new principle. As devised by Quincke, the apparatus consists of the ordinary puncture needle and trocar, to which is attached a long piece of rubber tubing leading to an S-shaped piece of bent glass. According to the height to which the latter has to be raised the pressure is estimated, the reading being taken from the level of the hilt of the needle to the level of the fluid in the glass tube; this is measured by an independent centimeter scale.

The imperfections in the use of this instrument are the following:

First, between the time when the trocar is withdrawn from the needle and the moment when the rubber tubing is attached to the hilt of the latter there must necessarily be an escape of fluid, even providing that the worker is rapid in his actions and the connections are all firm and watertight. This loss of fluid, which is inevitable, and which may vary from 1 to 5 c.c. when the pressure is high, affects the accuracy of the reading. Secondly, the length of the rubber tubing and its usual large caliber, causes it to act in part as a reservoir, a long loop of this tubing frequently hanging far below the level of the needle. The latter, therefore, often withdraws from the estimation as much as 5 c.c. of fluid. When the pressure is low this interferes materially with the attempt to read intraspinal pressure.

The advantage of the instrument is that it permits a reading to be made before and after withdrawing the fluid, and allows examination of the fluid without dilution with another second inert fluid such as might be used in a manometer.

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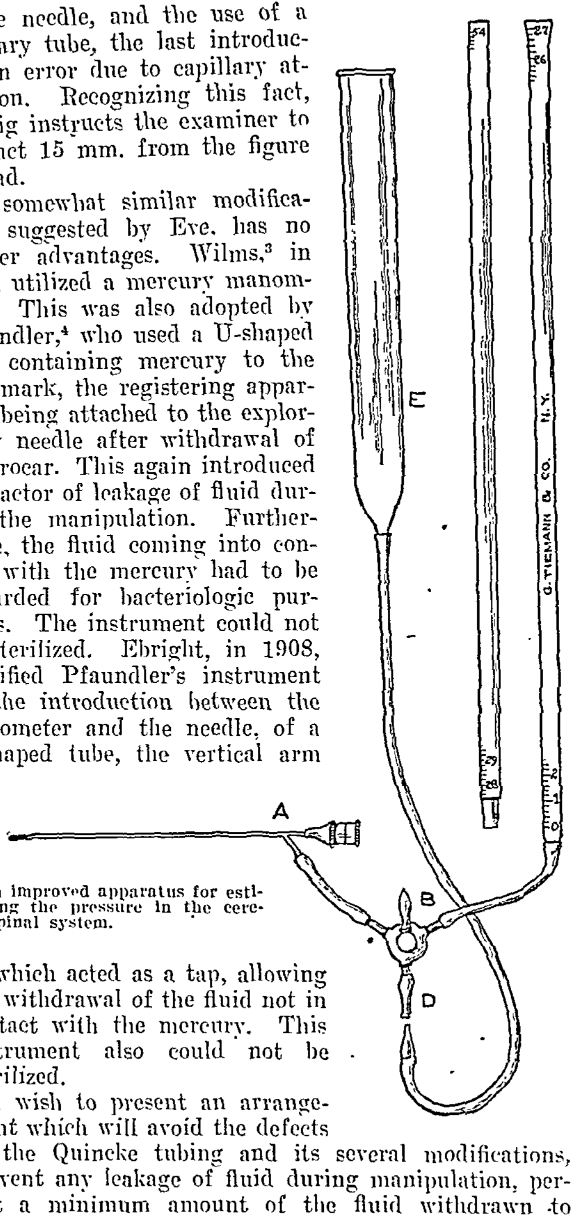
[1] Quincke: Technik der Lumbal Punction, 1902; Deutsch. Klin., 1906, vi, 351.

In 1897, Krönig[2] introduced a modification of the apparatus by inserting into the needle after withdrawing the mandrin, a short L-shaped glass tubing the upper arm of which acted as a scale on which to read the height to which the intraspinal pressure forced the fluid; the horizontal arm was employed to withdraw a specimen for examination or for therapeutic purposes. In addition, he incorporated in the needle a stop-cock, by means of which he could prevent the leakage of fluid while he was attaching his manometer. The disadvantages of this instrument are its rigidity, the complexity of the needle, and the use of a capillary tube, the last introducing an error due to capillary attraction. Recognizing this fact, Krönig instructs the examiner to subtract 15 mm. from the figure as read.

A somewhat similar modification, suggested by Eve, has no further advantages. Wilms,[3] in 1897, utilized a mercury manometer. This was also adopted by Pfaundler,[4] who used a U-shaped tube containing mercury to the zero mark, the registering apparatus being attached to the exploratory needle after withdrawal of the trocar. This again introduced the factor of leakage of fluid during the manipulation. Furthermore, the fluid coming into contact with the mercury had to be discarded for bacteriologic purposes. The instrument could not be sterilized. Ebright, in 1908, modified Pfaundler's instrument by the introduction between the manometer and the needle, of a T-shaped tube, the vertical arm of which acted as a tap, allowing the withdrawal of the fluid not in contact with the mercury. This instrument also could not be sterilized.



An improved apparatus for estimating the pressure in the cerebrospinal system.

I wish to present an arrangement which will avoid the defects of the Quincke tubing and its several modifications, prevent any leakage of fluid during manipulation, permit a minimum amount of the fluid withdrawn to register the pressure, and facilitate the withdrawal of all the fluid uncontaminated and in an unaltered condition. ~~The~~ principle which Quincke introduced, i. e., that the pressure should be estimated by the height to which the fluid is raised in a vertical tube, is utilized.

The apparatus consists of the following parts: (a) a needle, the hilt of which bears a terminal cap firmly screwed on; at about 2 cm. distant from the posterior end is a small branching arm, the lumen of which is the same as the lumen of the needle proper; (b) a three-way stop-cock made of metal; (c) a graduated piece of heavy glass tubing 30 cm. long with a lumen of 2 mm.; a second tubing of the same length and capacity is used, which has a tapering ground-glass lower end by which it may be fitted into the upper end of the first tube when the pressure is unusually high. The three-way stop-cock is interposed between the graduated glass tubing and the branch arm of the needle, connection being made on each side by a piece of rubber tubing 2 cm. long. The third arm of the stop-cock is used for the withdrawal of the specimen. A blunt trocar accompanies the instrument; if the needle is inserted in the canal without a flow of fluid resulting there is suspicion that the lumen may be blocked by tissue, the cap of the needle may be unscrewed and the trocar inserted to reestablish the patency of the needle. The trocar should only be used for this contingency.

The technic required for the manipulation is as follows:

First, the entire instrument is sterilized by boiling in water.

Second, the needle is attached to the three-way stop-cock, the latter being closed so as to prevent premature escape of fluid and the registering glass tube being disconnected temporarily.

Third, the operator holding the stop-cock in the palm of his hands, grasps needle and performs puncture according to his own way or preference for this maneuver.

Fourth, the point of the needle being felt to lie freely in the spinal canal, the registering glass is now attached to the second arm of the stop-cock by means of its connecting rubber tube; the handle of the stop-cock is turned to the first position, allowing the free escape of the spinal fluid into the registering apparatus.

Fifth, the pressure having been read, the handle of the stop-cock is turned to its second position, allowing the escape of the fluid from the registering tube into the collecting vessel; then turned into its third position allowing the further direct escape of spinal fluid into the collecting vessel. After the proper amount of fluid has been obtained the handle of the stop-cock is turned into its first position and the pressure again estimated. After the final pressure has been read, the needle is withdrawn from the spinal canal. The retained fluid is washed out with running water and the apparatus is resterilized.

A glass funnel and small-bore connecting rubber tubing about 20 inches long is furnished for injection of therapeutic serum or solutions when so desired. The tubing is attached to the third arm of the stop-cock (that used for withdrawing fluid) and the funnel lowered until cerebrospinal fluid replaces the air in the tubing. The injection fluid is then poured into the funnel, the latter raised, and the fluid allowed to enter the canal.

The instrument presents the following advantages:

First, there is no opportunity for accidental escape of fluid.

Second, the apparatus is compact and small, the entire capacity of the registering apparatus being only 60 minims.

Third, the instrument can be thoroughly sterilized.

Fourth, no foreign substance is used to indicate pressure. The registering part is made of heavy glass not easily broken; the stop-cock is of metal, simple and durable; the short rubber connecting parts can be easily replaced when the elasticity is exhausted.

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[2] Krönig: Deutsch. med. Wchnschr., 1897.
[3] Wilms: München. med. Wchnschr., 1897, p. 55.
[4] Pfaundler: Beitr. z. klin. Med. und Chir., xi, 20.

For comparison of the readings with that of a mercury manometer it is necessary only to recall that dividing the result in millimeters by the factor 13.6 will give the equivalent pressure as estimated by a column of mercury.

The reading with this instrument should be comparable to those obtained with the Quincke apparatus. The same principle of physics applying to each.

In a very short series of about twenty-five cases the following readings were taken: Normal seemed to lie between 2 and 6 cm.; incipient tabes dorsalis 10 cm.; multiple sclerosis 17 cm.; suppurative meningitis, from 10 to 30 cm.; *tuberculous meningitis, from 30 to 60 cm.*

The same regulations that appertain to all lumbar punctures must be observed; it must be remembered that the position of the patient, whether sitting or prone, struggling or crying, is very important in their effects on the cerebrospinal pressure. But as these variations refer in general to all methods of lumbar puncture, it is not necessary to discuss them here.

75 East Eighty-First Street.

ANEURYSM OF THE EXTERNAL PLANTAR ARTERY [*]

CHENEY M. STIMSON, M.D.

AND

J. TORRENCE RUGH, M.D.

PHILADELPHIA

This case is reported because it is somewhat of a surgical curiosity. In looking up the literature, aneurysm of the external plantar artery is found to have been reported five times.

Masson[1] in 1868, Cutliffe[2] in 1872, Gross[3] in 1874, Johnson[4] in 1874, and Gangitano[5] in 1904 report each a case. There have also been reported a few cases of aneurysm of the dorsalis pedis and of the internal plantar artery. Although the plantar surface of the foot is subjected, perhaps, to more pressure than is any other part of the body, the arteries, by reason of the dense fascia and the arch of the foot, are no more exposed to traumatism than are other arteries of the extremities.

Patient.—C. L. A., a man aged 34, married, was first seen Aug. 6, 1910. He complained of continuous dull pains, worse on walking, in the sole of the right foot. The pain was so severe that he walked with great difficulty with the foot in the equinus position. The trouble had commenced six months before as a slight, aching pain, intermittent, later becoming continuous and increasing. At the time the patient consulted us he was unable to perform his duties, which were those of a traveling salesman. The patient's father died of chronic nephritis at 67; mother, two brothers and two sisters are living and well. His wife and two children are living and apparently healthy. His wife has had two miscarriages. There is no history of cardiac or malignant disease or of tuberculosis. The patient had measles, chicken-pox and typhoid fever in childhood, pneumonia at 18. Concussion of the brain at 31 disabled him for six months. He denied venereal infection.

Physical Examination.—The patient was a well-nourished man apparently aged 35 and weighing about 140 pounds. Aside from moderate arteriosclerosis and a somewhat accentuated aortic second sound, his physical condition except for the present trouble, was good. The arch of the right foot was almost gone, the foot being flat, and on the plantar surface directly beneath the instep, nearer the external side was a round, pulsating tumor 5 cm. in diameter and protruding 2 cm. beyond the surrounding surface. The pulsations were synchronous with the radial pulse and there was a well-marked bruit.

Operation.—Operation was performed at the Methodist Hospital, Aug. 8, 1910. The sac was exposed and found to be spherical in shape and 3 cm. in diameter. The artery on each side of the sac was ligated and the sac removed. The patient made a good recovery and was able to return to his work in four weeks.

1801 Cayuga Street—1616 Spruce Street.

Therapeutics

CARDIAC TONICS OF MINOR IMPORTANCE

ADONIDIN, CONVALLARIA, CACTUS GRANDIFLORUS, SPARTEIN, APOCYNUM CANNABINUM, BARIUM CHLORID

None of the above-named drugs can compare in efficiency or activity with digitalis and strophanthus. While most of them have been shown to have the ability to stimulate the heart to greater contractions, it has not been shown experimentally or clinically that they have any advantages over digitalis in small doses, and as compared with large doses of digitalis they are much inferior. If digitalis or strophanthus does not agree with a patient, and produces undesirable symptoms, the dose is probably too large or too frequent, and the substitution of a weaker drug is not the substitution of a better drug, but is a demonstration of the misuse of the digitalis or strophanthus. There is no good reason why any of these drugs should be official in the next Pharmacopeia.

A description of these drugs and their activities, and the conditions for which they have been used are as follows:

ADONIDINUM. ADONIDIN

Description.—Adonidinum, genitive adonidini, is an active glucosid obtained from *Adonis vernalis* or *Adonis autumnalis* (false hellebore), a plant native of Northern Europe and Asia. This glucosid was isolated, in 1882, by Cervello, of Strasburg, and is an amorphous, inodorous and very bitter substance, soluble in alcohol, very slightly soluble in water.

Local Action.—This drug has no special local action.

Systemic Action.—The action of adonidin has not been very carefully worked out except on the circulatory system. In very large doses it seems to be somewhat irritant to the gastro-intestinal mucous membranes, producing vomiting and diarrhea. Its action on the heart muscle and on the cardiac nerves is similar, though less powerful, to that of digitalis. After a first slight increase of cardiac action it slows the beat, prolongs the diastolic rest, and raises the blood-pressure by causing contraction of the arterioles. Poisonous doses, after the primary slowing of the heart, cause it to beat very rapidly, probably because of paralysis of the vagi. Later the blood-pressure falls and the heart action becomes very slow. The drug acts somewhat as a diuretic, probably on account of the increased blood-pressure.

Action of a Therapeutic Dose or the Primary Physiologic Action.—It slows and strengthens the heart, raises the blood-pressure, and slightly increases the output of urine; in other words, it has a similar action to that of a physiologic dose of digitalis. The toxic symptoms are practically the same as in digitalis poisoning, and the treatment is the same as for poisoning by that drug.

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[*] Read before the Jefferson Clinical Society, Jan. 27, 1911.

[1] Masson: Mém. Soc. d. Sc. méd. de Lyons, 1868, vii, 26.

[2] Cutliffe: Indian Med. Journal, Calcutta, 1872, vii, 248

[3] Gross, S. D.: Philadelphia Med. Times, 1874, iv, 391.

[4] Johnson: Boston Med. and Surg. Jour., 1874, xc, 115.

[5] Gangitano: Riforma medica, 1904, xx, 421.

Therapy.—Adonidin may be used as a substitute for digitalis whenever a cardiac tonic is indicated, but it is not so effectual in its action and cannot restore compensation as does digitalis. Adonidin has been used with bromids in epilepsy. There seems no more reason for its use in epilepsy than for the use of strophanthus. Any cardiac drug may be of marked value when the system is debilitated by bromids.

The contra-indications are the same as those for digitalis.

Administration.—Adonidinum is an expensive, nonofficial drug. The dose is from 0.01 to 0.02 gram (from $^1/_6$ to $^1/_3$ grain), best given in capsules as the solution is intensely bitter, administered every four or five hours. This drug acts much more quickly than digitalis, and hence could be used as a cardiac tonic in emergencies, but strophanthin is better. This drug probably has no cumulative action.

CONVALLARIA, U. S. P.: LILY OF THE VALLEY

Description.—Convallaria, genitive *convallariæ* (*Convallaria majalis*) is a native plant of the United States, Europe and Asia, and is also cultivated for its sweet-smelling flowers. The parts official are the rhizome and the roots which should be collected in mid-summer and dried in the sun. It contains a bitter glucosid, convallamarin, in acrid purgative glucosid, convallarin, and a resin. These active principles were discovered by G. F. Walz and described in 1859. Convallamarin is the principle which acts on the heart, the convallarin acting only as a slight purgative.

Local Action.—This drug has no noticeable local action.

Systemic Action.—The principal action of convallaria, through its constituent convallamarin, is on the circulatory system, and the action on the heart is similar to that of digitalis, though this action is not so sure and not so decided. It raises the blood-pressure somewhat and often acts as a decided diuretic. Whether this diuretic action is due to the improved circulation or to stimulation of the kidneys has not been decided. In non-poisonous doses there is a slight laxative effect but no marked purgative action.

Action of a Therapeutic Dose or the Primary Physiologic Action.—This drug is of doubtful action on account of the varying strength of its official preparation, but the action of a therapeutic dose should be slightly to slow the heart and strengthen its muscular action, to raise the blood-pressure slightly, to act as a mild laxative but not to disturb the stomach or digestion, and to cause a marked increase in the amount of urine.

Toxic Symptoms.—These symptoms would be similar to the symptoms produced by poisonous doses of digitalis, and the treatment would be the same as in poisoning by the latter drug.

Therapy.—The therapeutic use of this drug first began, unprofessionally, in Russia, as a remedy in dropsy, and later investigations gave it a professional standing as an active drug in cardiac debility and as of special value in cardiac edema. Therapeutically, then, it may be tried as a substitute for digitalis or strophanthus when there is valvular disease, a dilated or irregular heart and a tendency to cardiac edema. Though some therapists find the drug of great value in these cases its action is often disappointing, probably from the varying strength of its preparations.

Contra-Indications.—The contra-indications are the same as those of digitalis, and much gastric or bowel irritation should preclude its use.

Official Preparation.—The only official preparation is: Extractum Convallariæ Fluidum, the beginning dose of which is 0.5 c.c. (8 minims).

Unofficial Preparations.—Convallamarin occurs as an amorphous powder, yellowish in color and of bitter taste, soluble in water and alcohol. The dose is 0.05 gram (¾ of a grain) four or five times in twenty-four hours. Hypodermatically the dose would be about 0.02 gram (⅓ of a grain). The drug in emergencies, however, is greatly inferior to strophanthin. Convallarin occurs as a yellowish, amorphous powder, of acrid taste, insoluble in water, soluble in alcohol. It has no action on the heart, but may act as a laxative. The dose is about 0.2 gram (3 grains).

Administration.—The dose of convallaria should be pushed to some slowing of the heart and noticeable increase in the urine unless purgation should occur. There seems to be no cumulative action from this drug.

This drug could well be deleted from the Pharmacopeia.

CACTUS: NIGHT-BLOOMING CEREUS

Description.—Cactus, genitive *cacti* (*Cactus grandiflorus*) is a native plant of tropical America, and is cultivated for its beautiful flowers. It is not official, and no active principle of the plant has been obtained. A fluidextract and a tincture have been used medicinally. These preparations have been made from the fresh stalks, which contain an acrid juice.

Local Action.—The expressed juice of this plant is irritant and can produce vesicles and pustules on the skin, and when taken in concentrated form it causes pain, vomiting, and diarrhea.

Systemic Action.—Rubini, in 1868, was perhaps the first to state that a tincture of this plant was of advantage in cardiac debility. This has been reiterated clinically at stated intervals ever since. It has been clinically stated that the drug would increase the strength of the cardiac contractions and regulate the rhythm. It has also been stated that it would raise the blood-pressure. It has been stated experimentally that it acts on the intracardiac ganglia, and also that it is a stimulant to the vasomotor center. On the other hand, repeated recent careful experimentations with the best preparations obtainable, and that could be made from the crude drug, and experiments with so-called active principles have shown absolutely no physiologic activity whatever, and no action on the heart or blood-vessels. Favorable reports of circulatory activity of this drug found experimentally have probably been based on preparations of other allied plants, or contaminations. The drug and its preparations are therefore pharmacologically inert, and should not receive official recognition.

Toxic Symptoms.—An over-dose of a concentrated preparation of cactus would undoubtedly cause vomiting and other symptoms of gastro-intestinal irritation, and the treatment would be that of a gastro-intestinal irritant.

Therapy.—There is no reason or excuse for expecting any action on the circulation or any other part of the body from preparations of this plant. Any results obtained from the administration of its preparations are due to the associated action of something else administered or done at the same time. If a strong alcoholic preparation is used, the results obtained may be attributed to the action of the alcohol. The results obtained from the administration of preparations of this plant are purely psychical, or show that the digitalis, which was given to the patient before the cactus was administered, was not indicated.

This is a truth that cannot be too frequently repeated. A weak and useless preparation is substituted for a strong and active one; the patient or his symptoms improve; the results are recorded as activities of the useless, inert preparation, when the improvement is really the removal of the active drug which he did not need.

Also, there is the never absent psychical effect on the patient of a change of drug or the use of something decidedly different or unusual.

It should be accepted as an axiom that a drug that has no action on animals has no action on man.

SPARTEINÆ SULPHAS, U. S. P.: SPARTEIN SULPHATE

Description.—Spartein is an alkaloid obtained from *Scoparius* (broom). It is a colorless, oily, unstable liquid of intensely bitter taste, alkaline reaction, and anilin-like odor. Its neutral sulphate is the only preparation official, and is like all sulphates of the alkaloids, bitter and soluble.

Action on the Circulatory System.—The evidence of investigators and clinicians in regard to the action of spartein is so conflicting that it must be concluded that the actual action and utility of this drug is not established. It seems to be pretty thoroughly proved that spartein is a depressant to the nervous system and in full doses weakens the heart. There is, if any, only a short-lived rise in blood-pressure from spartein and in full doses the blood-pressure is diminished. It is depressant to the heart muscle, and in large doses paralyzes the peripheral endings of the pneumogastric nerves allowing the heart to become more rapid. Small doses, by stimulating the pneumogastric nerve, can prolong the diastole of the heart, and in certain cases may quiet and steady an irregular heart.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The ordinary action from therapeutic doses of this drug should slightly slow the heart, regulate its rhythm, prevent its nervous irritability, slightly diminish the pulse tension, and moderately increase the output of urine.

Toxic Symptoms.—This drug causes symptoms of depression and paralysis similar to that produced by conium, and the treatment of poisoning would be the same as for the latter drug.

Therapy.—This drug is not a substitute for digitalis and does not act as does digitalis. The indications for its use are irregularity and nervous irritability of the heart, especially when conjoined with general nervousness. Spartein has been used in asthma, and it has seemed of advantage in disturbed cardiac action when combined with arteriosclerosis and chronic interstitial nephritis. Nitroglycerin and iodids, however, are safer and act better. It is not a diuretic. It is the scopalin of the broom plant that is diuretic.

Contra-Indications.—These are muscular or fatty degeneration of the heart, low pulse tension, dilatation of the heart; or acute cardiac weakness should prohibit the use of this drug.

Administration.—The only official preparation is sparteinæ sulphas, and the beginning dose is 0.02 or 0.03 gram (1/3 or 1/2 grain) given every six or eight hours, in solution or in capsule. The action of the drug is rapid, occurring in from 20 to 40 minutes.

There seems no good therapeutic reason for recognizing this drug in the revised Pharmacopeia.

APOCYNUM, U. S. P.: CANADIAN HEMP

Description.—*Apocynum*, genitive *apocyni* (*Apocynum cannabinum*). The part official is the rhizome. This plant should not be confused with *Apocynum androsaemifolium*, as the latter drug has properties different from the official drug. Preparations are probably, however, often made from the wrong apocynum, consequently the results are different. A non-glucosidal, crystalline principle has been isolated named apocynin.

Local Action.—The drug has no external action, but is an irritant to mucous membranes and readily causes vomiting, purging, and severe gastro-intestinal irritation.

Systemic Action.—This drug has long been used in dropsical conditions, especially in cardiac edema. It has also been used in ascites, and in hepatic cirrhosis with consequent disturbance of the circulation and edema of the lower part of the body and lower extremities. Good preparations from true *Apocynum cannabinum* have been shown to raise the blood-pressure and stimulate the cardiac muscle to stronger contraction. The diuresis caused by apocynum is doubtless more or less due to the improved circulation, and the diuresis is similar to that caused by digitalis. The pulse is slowed by stimulation of the vagus nerves, such action being similar to that of digitalis. Whether it has a specific stimulating action on the kidneys, causing increased secretory and excretory activity besides that caused by improved circulation, has not been determined. While its action has been noted clinically to be satisfactory, it is so frequently irritant to the stomach that for this reason its utility is impaired.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The action of this drug is uncertain and the dose is uncertain, depending on the activity of the preparation procured. The desired and expected action would be to slow the pulse, to strengthen the heart, to raise the blood-pressure, and to increase the output of urine. Undesirable action is to cause gastric irritation, nausea and vomiting.

Toxic Symptoms.—These would be the same as would be caused by a gastro-intestinal irritant. By administration by the mouth it has not been shown that this drug could seriously injure the heart. Large doses would doubtless too rapidly cause vomiting to allow systemic poisoning.

Therapy.—Apocynum has been repeatedly reported clinically to be of value in general anasarca and in ascites. If there is cardiac defect its action and efficiency certainly cannot be compared to that of digitalis. In cirrhosis of the liver it is an undetermined question whether it would be any more valuable than other diuretics. When the drug has been pushed it has been noted that some congestion of the kidneys has been caused. It would be a question, when such kidney congestion occurs, whether it is not due to other causes than the drug.

Contra-Indications.—The contra-indications are gastro-intestinal irritation, and especially a tendency to nausea and vomiting.

Official Preparation.—The only official preparation is Fluidextractum apocyni; dose 1 c.c. (15 minims). The powdered drug itself may be administered, if desired, in lose of 1 gram (15 grains). Administration of the rude drug, however, would be senseless, if a reliable luidextract were available.

Unofficial Preparations.—Apocynin may be obtained oth as the crystals and in an amorphous form. The rystals are white. The amorphous form occurs as a white or yellowish-white powder, and contains a resin. Both are soluble in alcohol. A tincture of apocynum may be obtained, the dose of which would be about 1 or 2 c.c. (15 to 30 minims).

Apocynum androsaemifolium (dogbane), sometimes called the wild or mild ipecac, has been used in chronic constipation, but it is irritant. The dose of the fluidextract is about 1 c.c. (15 minims).

Administration.—The best preparation is undoubtedly the fluidextract, but the activity of this drug and preparations, as above stated, is uncertain. The only excuse for its use is as a diuretic in dropsy. The drug has been used as an emetic, but such use is inexcusable. Other emetics are better and more certain.

It would be well to omit this drug from the Pharmacopeia unless it can be assured that the *Apocynum cannabinum* is the only apocynum used and that there can be some standard of activity. It may become a useful drug, but it cannot be depended on at present, and doubtful drugs should not be certified to in the revised Pharmacopeia.

BARII CHLORIDUM: BARIUM CHLORID

Description. — Barium chlorid occurs in colorless, translucent crystals which are very soluble in water and have a salty, bitter, and decidedly astringent taste.

Local Action.—The soluble salts of barium do not irritate the skin, but are decidedly irritant to mucous membranes and therefore will cause vomiting and purging in concentrated solutions.

Systemic Action.—Barium is one of the most poisonous of the alkaline earths. The salts are absorbed rather slowly from the stomach and intestine and after prolonged administration may be deposited and stored up in the bones. After absorption the chlorid of barium has a decided action on the circulatory system. It stimulates the cardiac muscle to more energetic contraction which becomes with poisonous doses a tetanic contraction, the heart stopping in systole. The blood-pressure is raised rapidly not only from the increased cardiac action, but principally from the contraction of the muscular coats of the arterioles. This action is largely local as dilatation of these vessels does not occur after the spinal cord is cut. The heart is slowed in its action, but whether this slowing is entirely due to the increased resistance offered by the contracted blood-vessels, or due also to stimulation of the pneumogastric nerves has not been decided.

In mammals, absorption of poisonous doses of the barium salts will cause tonic and clonic spasms, showing that this metal is decidedly irritant to the spinal cord and medulla oblongata. In fatal poisoning there is paralysis of the central nervous system. The pupils are sometimes dilated by the action of large doses. Barium increases the contractile power of the muscles enormously, resembling the action in this respect of veratrin. There seems to be no special action on the glands of the body, except that it can produce salivation, like some other metals, and the bronchial secretion may be increased.

Barium chlorid is excreted both in the urine and into the intestines.

Action of a Therapeutic Dose or the Primary Physiologic Action.—An active dose of barium chlorid produces a slight slowing of the heart, an increase in the strength of the cardiac contractions, and a decided increase in the arterial tension. Other symptoms or signs of physiologic action would seem to tend toward the action of too large a dose.

Toxic Symptoms.—Unless the solution is very dilute there will be the symptoms of gastro-intestinal irritation and erosion, which means thirst, vomiting, purging, pain, cardiac stimulation, soon followed by more or less symptoms of shock, with convulsions and dilated pupils, the latter probably due to stimulation of the sympathetic nerve. Before death the bladder also becomes very irritable. The final demise might be by coma or by sudden stoppage of the heart in systole. As little as 0.15 gram (2½ grains) can cause death.

Treatment of Poisoning.—The chemical antidote is any soluble sulphate, as magnesium or sodium sulphate, in large dose, this forming barium sulphate which is practically insoluble. The other treatment would be that for any other gastro-intestinal irritant, and some drug to quiet nervous irritation, as bromids and chloral. Nitroglycerin or aconite might be good treatment to overcome contraction of the blood-vessels and the irritations of the cardiac muscle.

Therapy.—Clinicians differ largely in their opinion of the value of barium chlorid in cardiac debility, but a sufficient number of satisfactory cases have been reported to indicate that barium chlorid may be of value when there is weakness of the ventricles from valvular disease, and in acute dilatation. It has been used to aid the circulation and better the local condition in varicose veins. Its power to stimulate the smooth muscle fiber has caused it to be used in paresis of the intestines and in paralyzed conditions of the bladder. Barium chlorid sometimes slows the heart and improves the circulation in Graves' thyroid disease.

Contra-Indications.—In conditions of high blood-pressure, or atheroma, or nervous irritability, or where there was acute inflammation of the brain or spinal cord this drug would be contra-indicated.

Administration.—Barii chloridum is not official. The dose is about 0.02 gram (⅓ of a grain), best given in tablets or in capsules, after meals.

There is no sufficient reason for recognizing this salt in the revised Pharmacopeia.

REMARKS

It can almost be guaranteed that there will be no increase in the number of deaths from arterial, cardiac, renal, and hepatic disease if the above drugs (adonidin, convallaria, cactus grandiflorus, spartein, apocynum cannabinum, and barium chlorid) are not recognized in the revised Pharmacopeia.

1. They are all inferior to digitalis and strophanthus which they are said to, and in some instances do, mimic pharmacologically and therapeutically.

2. They are much more uncertain in their action than digitalis and strophanthus.

3. Of all drugs to be officialized, inferior cardiac drugs should be the last. It is a dangerous thing to give standard and standing to a heart tonic that is unworthy, or to give the prescriber a sense of false security as to the therapeutic usefulness of a drug by the backing of fifty picked men, and such backing is the physician's interpretation of the Pharmacopeia.

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[*For other information see second page following reading matter*]

SATURDAY, APRIL 1, 1911

COMPRESSED-AIR ILLNESS AND ITS PREVENTION

In the evolution of industry, which more than anything else characterizes our present age, preventive medicine is assuming greater and greater importance; and in no special province is this truer than in the fields of engineering, where not only the problems of tropical sanitation, but the details of more ordinary undertakings, are being subjected to medical supervision. Embodied in a report to the governor of Illinois by a Commission on Occupational Diseases,[1] is a discussion by Bassoe of caisson disease, which well illustrates this phase of modern medicine. Although the occurrence of compressed-air disease has long been known, the increasing frequency of work that requires continued use of high air pressure makes this an important industrial disease, and Bassoe's report on its occurrence in Illinois, which includes a summary of our present knowledge, is well calculated to serve as a basis for its better control.

For a theoretical study of the peculiarities of caisson disease, we are chiefly indebted to work conducted under the auspices of the British admiralty by Boycott, Damant and Haldane,[2] who were able to demonstrate these practical points: first, that it is the nitrogen of atmospheric air alone that plays an important part in the production of the disease; second, that increased exposure to high pressure gives added risk up to about five hours for man, at which time saturation of the body with nitrogen is practically complete; third, that it is rare, if ever, that symptoms of caisson disease occur under an excess of pressure of 1.25 atmospheres, however long the exposure; fourth, that death is due nearly always either to pulmonary gas embolism, or to blockage of vessels in the spinal cord by gas. Since the excess gas in the tissues does injury solely by its sudden increase in volume on removal of pressure, and since the body can tolerate a sudden decrease in pressure of from 2.25 times normal to normal, they point out that it is safe to decompress from any stage whatever by successive reduction of one-half at a time, thus, by Boyle's law, keeping the volume of liberated gas within the limits of safety. This type of decompression they designate as the "stage" method, as contrasted to the more usual practice of a slow uniform rate of reduction.

That the adoption of such a precautionary measure would almost completely obviate danger in physically sound individuals is shown by the experience of the workers in the East River tunnel at New York, as reported by Japp.[3] Here it was found that by the use of stage decompression, associated with muscular exercise (walking), danger was practically eliminated for seasoned workers.

Such a record, where 330 men were employed for thirty-six days, stands in striking contrast to statistics gathered before the use of preventive steps. Thus, to cite a few American experiences only, there were 119 cases, with fourteen deaths, among 600 men employed on the St. Louis bridge, and on the construction of the first Hudson tunnel there were, before the introduction of a "medical lock," twelve deaths among the forty-five or fifty men employed. Careful search appears to show that the disease is much more frequent than imagined, as is shown by Bassoe's ability to collect 161 previously unreported cases in Illinois, where, aside from the St. Louis bridge cases just noted, he was able to find previous references to only three cases.

In regard to the necessity for special legislation to maintain proper safeguards, it has been urged that the common law principle of holding contractors and corporations responsible for preventable injury to employees should suffice. But that this does not do so, at present at least, is decisively shown by the frequency with which the disease occurs.

SEX INSTRUCTION IN THE SCHOOLS

At the recent annual conference of the American School Hygiene Association a paper was read by Dr. Charles W. Eliot, ex-president of Harvard University, on school instruction in hygiene.[1] Dr. Eliot devotes considerable space to the problem of education in sex matters, coming to the conclusion that under present conditions it is desirable that such instruction should be given in the schools. The objection that the subject is an unclean one and unsuitable for such public discussion he answers by pointing to the disastrous results that have obtained in the past from allowing this objection to govern our policy. Another objection is that the subject is such a sacred one that it can properly be discussed with children by their parents only. To this Dr. Eliot replies that, while the instruction of children in this subject by parents is most desirable when possible, a great majority of parents possess neither the necessary knowledge nor the power of expression to instruct their children properly on this subject.

The general outline for such a scheme of teaching consists of a prolonged course of natural history, beginning early with botany and progressing to an elementary consideration of zoology, using every possible means of illustration, both indoors and out. Children should be thoroughly acquainted through such means with the principles of the various modes of transmitting life "before any sex emotions begin to stir in them." Later the course should include physiology and should teach something of the causes of disease, by no means omitting, though not unduly emphasizing, the venereal affections. One of the dangers to be avoided in such instruction, as we have remarked before,[2] is the placing of disproportionate stress on the negative side of the subject.

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[1] An *editorial* on other diseases mentioned in this report appeared in THE JOURNAL, March 25.

[2] Jour. of Hyg., 1908, viii, 342.

[3] Tr. Am. Soc. Civil Engineers, 1909, lxv, 1.

[1] Survey, Feb 11, 1911, p. 803.

The plan outlined is not a new one, but the fact that it emanates from so distinguished an authority in educational matters entitles it to fresh consideration. No one competent to judge the question will attempt to refute Dr. Eliot's two fundamental propositions: the evils which result from the "world-old conspiracy of silence," and the unfitness—at least, the unreadiness—of a large proportion of parents to instruct their children in sex hygiene. To admit these two facts, however, will scarcely be, for many perplexed educators, to see the way clear to the introduction of the subject in the public schools. From the published abstract of Dr. Eliot's paper, we are unable to judge of the consideration which he gave to the not inconsiderable amount of pioneer work which must first be done. It may be that the practical difficulties which loom large to those working at the bottom of the educational structure dwindle in perspective when viewed from the top.

Parents who are unfit to give instruction to their children cannot therefore be regarded as negligible factors in the educational scheme. It would be rash to attempt to instruct children in the fundamental facts of life without first soberly and tactfully educating their parents, carefully avoiding undue shock to prejudice and unnecessary affront to custom. No one engaged in this task can afford to forget that at present the unvarying decent concealment or avoidance of certain subjects almost usurps the place of morality in the esteem of many people, both the overdainty and ultrarefined on the one hand and the densely ignorant on the other. It will not do for the school to disturb in the minds of children ideals still respected in their homes. The conflict of authority that is sure to result will be detrimental to the influence of both school and home; but the school will suffer most, and deservedly.

Here the cooperation of the family physician will be of the greatest value. The physician may not often have the opportunity of instructing children and young people; indeed, many physicians have no special aptitude for the task. The opportunity of enlightening the older members of a family, however, must often come to every general practitioner, and he has only to use it judiciously to accomplish much good, since on these matters advice which would not be tolerated from a layman will generally be received with respect from a physician.

The need for more widely diffused knowledge of this nature is so great that the experiment of introducing the subject in the public schools seems to be urgently demanded, though there is no need to forget that it is an experiment. It would be foolish to regard the difficulties in the way as insuperable; it would be equally unwise to minimize them. While so much of method remains to be worked out, it would not be prudent to demand work along this line from any educators except those best qualified by wisdom, experience and the confidence of the communities in which they labor. We hope that some of these may before long produce results that will justify others in following their lead.

THE LOCKED DOOR

Once more the drowsy conscience of the country has been shocked broad awake—for a moment—by horror. One hundred and forty-one human beings, most of them women and young girls, have met a frightful death through the indifference or greed—or both—which controlled their fates. What gives added poignancy to the ghastly tale is the fact that we knew it all before. The "fireproof building," packed with tinder and human fuel—the inadequate fire-escapes—the locked doors, piled high with dead—every detail of the tragedy has been rehearsed over and over again; the stage is set even now in hundreds of places for its repetition. It is said that the Asch building, where this fire broke out, is only one out of many in Greater New York where such a catastrophe might have occurred; that New York is not unique in this respect, scores of cities in this country can bear shamed and sorrowing witness.

It is not worth while to anticipate the dreary and well-nigh futile task of the authorities in "fixing the blame." We cannot, however, evade the task of pointing out at least one of the lessons which by now ought to be writ large in the memory of every conscientious citizen—the lesson of the locked door. It will be remembered, by the way, that the Triangle Shirtwaist Company (the establishment affected by the recent fire) was the concern in which the New York shirtwaist-makers' strike began, something over a year ago. This holocaust writes a grim commentary on the demands of the workers for better living conditions; the locked door fitly symbolizes the attitude of employers of this class.

To the public's demands to know whether the health and welfare of employees are endangered by lack of light and air, exposure to infection, excessive hours of work, unprotected and dangerous machinery, wages insufficient for a proper standard of living, such employers have but one answer, however they may phrase it: "This is a private business." It is the slam of a door and the turn of a key; it means that, in the estimation of the proprietors, a man's business is his castle. Laws regulating the hygienic conditions of industry are, from this point of view, an unjustifiable interference with private enterprise.

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[2] Sex and the Instruction of the Young, The Journal A. M. A., March 11, 1911, p. 746.

Our modern industrial organization permits a "captain of industry" to hold the lives of hundreds and thousands in the hollow of a callous and unsteady hand. Even barring out such spectacular calamities as the recent fire in the Triangle Shirtwaist Company's premises, the moral and physical well-being—the very existence—of those who earn their bread by their day's labor is more affected by the rules and conditions established by their employers than it is by the whole machinery of civil government outside. Can we permit such an *imperium in imperio,* ruled for private profit, to be carried on behind locked doors, figurative or literal?

In the present instance, doubtless, some little good will be accomplished if the guilty individuals receive punishment a tithe as prompt and exemplary as that meted out to the irresponsible wastrel who stabs his fellow in a drunken brawl; but this is scarcely to be expected. What is most to be desired is that we shall all realize our share in the joint responsibility for such disasters and the conditions that lead up to them. He who looks on unprotesting is guilty in that degree.

THE FETISH OF PRECEDENT

Inasmuch as the question of employers' liability for injury to workmen is in certain of its aspects a problem of preventive medicine, it is of interest to note the recent decision of a New York court declaring unconstitutional a law of that state providing for the compensation of workmen injured in the line of their duty.

The main feature of the act was that it required employers of labor in certain dangerous occupations, such as bridge-building, operation of elevators, work on scaffolds, work on electric wires, working with explosives, on railroads, tunnels, and work carried on under compressed air, to compensate their employees for any injury occurring during the course of the work, whether or not such injury occurred through the negligence of the workmen. The considerations which justify disregard of the employee's negligence are, first, the difficulty—the practical impossibility—of holding the employer to any responsibility if the employee must first be cleared of all blame, and, second, the fact that, in the main, the negligence of the employee is within the control of the employer. To the working man dependent on his daily labor, the more or less remote chance of losing his life does not for a moment balance the immediate certainty of losing his job. The most cruel injustice of the doctrine of contributory negligence lies in the opportunity it gives to the employer, while tacitly requiring the worker to take a risk, to evade all responsibility for its consequences because it is impossible to prove that the employee did not take this risk on his own initiative. As soon as it is made unprofitable to employ working men who are negligent of their own safety, such negligence will cease to be an appreciable factor in industrial accidents.

The New York law was modeled on the British workmen's compensation act of 1897, which has since been extended to cover every kind of occupational injury. This law has been upheld by the courts of Great Britain and has been found to work to the satisfaction of both employers and employees, in that country.

The New York court admits the strength of the economic and sociologic arguments adduced in support of the statute, but holds that "under our form of government courts must regard all economic, philosophic and moral theories, however attractive and desirable they may be, as subordinate to the primary question whether they can be molded into statutes without infringing on *the letter or spirit of our written constitutions.*" The court points out that the law abrogates the "fellow servant" doctrine, and also the rule in regard to "contributory negligence," two venerated precedents that were eagerly seized on by the courts of this country almost as soon as they were enunciated, and have been worshipped and invoked ever since. It is admitted, indeed, that the legislature has the right to abolish both of them. The New York court, however, sweeps aside British precedent, sound common sense, the admitted power and expressed will of the legislature, and falls back on that other hallowed fetish frequently invoked by corporations and trusts when their special privileges and profits are threatened, the deprivation of property without due process of law, etc. No matter, therefore, under what stress of necessity a man engages in a hazardous employment, wherein often even the most elementary provisions for safety are disregarded by the employer—no matter how much it may cost the general public to care for an injured employee and his dependents—the court decides that the sacred right of property must not be invaded. As for the public, if it ever had any rights these, evidently, have long since vanished, swallowed up in the tortuous mazes of legal precedent.

On the very heels of this decision comes an instance in the same state of the need and justice of such a law. The terrible fire in a factory in New York City wherein over a hundred lives were lost, and many persons injured, illustrates how the public pays for the indifference of employers to the safety of their people. In defiance of state laws and city ordinances the proprietors of this factory and the owner of the building had neglected to provide adequate exits or means of escape from their building, although it is asserted that the stock and machinery were heavily insured against fire loss. This fire has already cost the city of New York thousands of dollars for the care of the dead and injured, and the ultimate expense to the public, taking into account not only the killed and maimed, but those dependent on them, no reckoning can compute.

It is only too plain that, until it is made unprofitable for employers to despoil their laborers of life and strength and to throw the human refuse on the scrap-heap, to be disposed of at public expense, the inhuman and senseless waste will go on. The blood of the worker is part of the cost of production; but private industry will not pay that cost if it can be shifted to the general public.

To those who look ahead, the decision of the New York court is matter for regret because, but not solely because, it perpetuates an ancient wrong. It shows a failure of the courts to understand the age in which they are living. "What we know as men," said the Illinois Supreme Court not long ago, "we cannot profess to be ignorant of as judges." We commend this fine saying to the consideration of courts elsewhere. Too often the courts have seemed entirely to ignore, either as men or as judges, facts which are patent to the man on the street; too often they have seemed to seek precedents to justify setting at naught the will of the people, expressed through the legislatures. It is not radicals, but conservatives, who have most reason to regret this, for it presages a day of reckoning in which precedents shall go for very little.

Current Comment

HYGIENE IN THE ARMY ON THE BORDER

We recently commented on the mobilization of a considerable military force in Texas for maneuver purposes, and suggested that this would give an opportunity to the Medical Department of the Army to show what progress had been made since 1898 in army sanitation and hygiene. Though the facts were not then at hand, it was suggested that undoubtedly vast improvement had been made in this respect. A correspondent in a New York daily paper has raised the same question and inquired what was being done in sanitary matters to prevent a repetition of the experiences of the army in 1898. Under the authority of the War Department, a reply was made to this inquiry, setting forth what had been done in preparing for the maneuvers in Texas. It was stated that at the time of issuing the order for the mobilization of the army the Army Medical School was ready to supply, for inoculating the troops in the field, an antityphoid serum which had been previously tested by 20,000 inoculations in the regular army, and had proved its efficiency. The inoculations are now being applied to the entire force in the field. It is asserted by the War Department that this is a feat of preventive medicine which for magnitude and promptness of execution is unique in military history. Among other measures, a carefully tested system of the disposal of wastes has been put into operation, which will prevent camp epidemics and defeat the dangerous activities of the common fly. Sanitary squads of hospital corps men, under competent medical supervision, have been provided to secure cleanliness of the camps. Trained sanitary inspectors and field laboratories are now provided and the sanitary personnel, while somewhat short in numbers, is expected to be filled up in case of necessity from the Medica Reserve Corps and by the enlistment of Hospital Corps volunteers. The plans for temporary hospitals are drawn and specifications are printed and ready for the builder The reorganized Red Cross, with its enrolled trained nurses, also stands behind the reorganized medical service. As illustrating the preparedness of the department for service, it is said that the hospital equipment and medical supplies for the volunteered force left the field depots in Washington and St. Louis while the troops were being entrained and arrived in San Antonio at practically the same time as the troops. It is satisfactory to realize that ten times the force could have been supplied and equipped with equal promptness. Although the Army has been in the past, and even now is, more or less handicapped by the reluctance of Congress to provide for a sufficient medical personnel and equipment yet present conditions indicate that the Medical Department has evolved an efficient organization and is prepared to cope with actual war conditions, according to modern ideas, in a highly efficient manner. The experience in Texas will no doubt prove that our medical forces and organization are equal to those of any other nation.

MAIL-ORDER MEDICAL SPECIALISTS

In one of his articles on quackery, Mr. Samuel Hopkins Adams likened the mail-order medical faker to a man who would offer to mend chimneys by mail. The comparison is a homely one, but apt. Diagnosing and prescribing by mail, as carried on by the typical medical mail-order house, is a fraud *per se*. As a corollary of this axiom, it follows that any person who offers, for monetary or other consideration, to prescribe or treat on the mail-order plan is a swindler and a cheat. Yet, there are in this country hundreds, possibly thousands, of concerns that are doing a flourishing business in this line of work. A few of these The Journal has exposed and a few more it expects to expose. But, in the very nature of the case, those which we are able to investigate are but a drop in the bucket of quackery. In the "Propaganda for Reform" department of this issue there is an article dealing with a mail-order medical fake calling itself the Dr. Bertha C. Day Company. Physicians will find very little in this article with which they are not already familiar, but they will find a great deal with which their patients are unfamiliar. Few physicians realize the degree of ignorance that exists among the public generally, regarding mail-order medical quacks Because the fraud that characterizes these concerns is so perfectly evident to the physician, he is unable to comprehend how it is possible for presumably intelligent laymen to be misled by the specious promises of the mail-order quack. The fortunes that have been, and are being, made by the unscrupulous individuals who conduct such concerns is in itself sufficient to prove that the public is still easily fooled. The purpose of articles, such as that which appears in this issue, is to enable physicians to place in the hands of their patients such information as will convince the most gullible of the fraud that is inherent to quackery. The Bertha C. Day article, together with a number of similar articles, will be reprinted in pamphlet form and sold at a merely nominal price. We know of few things on which the public needs enlightenment more than the subjects of quackery and the nostrum evil; we know of no better way of bringing about this enlightenment than by the wide dissemination of articles such as these. It is to be hoped that physicians will realize their responsibilities and opportunities in this matter.

THE RISKS THAT PHYSICIANS RUN

During the past week three deaths have been reported of resident physicians in hospitals, from diseases contracted from patients whom they were attending. Two of these deaths were from cerebrospinal meningitis brought to New York City by passengers from Greece; the third—in Chicago—was from scarlet fever. The records of the dead in the medical profession are full of similar instances, not only in cases of young interns, but of busy family practitioners, who have faced death fearlessly in their professional work and have gone to death as fearlessly. In exceptional instances, as in those just mentioned, the work which brought such men to their death has been done in the public eye, and they have consequently received the martyr's meed of lament and eulogy. Seldom or never has the spectacular element been a motive for the deed. Although it is impossible for the world to pay fitting individual tribute to all such heroes, we may regard the honors paid to a few as given to representatives of a heroic class. All have done their duty and deserve the same honors that are paid to soldiers who die in line of duty.

A SAD SEQUEL TO CONSCIENTIOUS WORK

In contrast to the situation referred to above, the physician may find that his duty brings him into direct conflict with the wishes of the public. He may be called on to exert considerable strength of character in order not to fail in any respect in his duty. Especially is this so when not only his own pleasure and comfort are concerned, but the happiness and even the lives of his family. Such a case was recently described[1] in these columns. The report of a case of typhoid by Dr. Franz, an Austrian district physician, caused a change of plans by the authorities so that military maneuvers were not held, and thus the villagers were deprived of pleasure and profit. A boycott and persecution followed. The physician could not obtain a nurse for his wife during her confinement. No one in the village would sell him food; he had to get meat and vegetables by mail.[2] His windows were broken about once a week. The ordeal was so severe and the resultant anxieties so wearing as ultimately to bring on the physician's death. The government has taken the matter in hand most actively and will severely punish the guilty persons and enforce the payment of money damages to the family of the dead physician. As detailed by our Vienna correspondent, the case is an extreme one, but it merely illustrates the position in which a physician may be placed when the demands of public health run counter to the temporary desires of the community. The process of educating the public all over our own country on the subject of public health—what it means and what it requires—is gradually going on. It requires time; it requires patience; it requires far-sight, but no one can deny that advance is being made. The period on which we have entered has been called the "Public Health Era" and physicians of to-day are most fortunate in the opportunities they have in not only witnessing it, but in being active factors.

PRELIMINARY EDUCATION SHOULD ACTUALLY BE PRELIMINARY

At the recent meeting of the Association of American Medical Colleges an important step in advance was taken in regard to its requirement of preliminary education. An amendment to the constitution was adopted providing that after Jan. 1, 1912, all colleges holding membership in the association shall require of every student admitted at least a completed four-year high-school course or its equivalent, no "conditions" to be permitted. Heretofore, students might be admitted conditioned in as many as six points or three units of high-school work. Since the entire four-year high-school course consists of only thirty points, or fifteen units, therefore, the constitution permitted the colleges to accept students conditioned in 80 per cent. of a year's work in entrance subjects; which, according to another clause of the constitution, were to be removed before the student began work "in the second year of his medical course." Not only was a student thus conditioned allowed to begin the difficult study of medicine without the necessary preliminary education, but he was given the Herculean task of completing nearly two years of work in one. The instance is exceedingly rare in which a student can honestly and satisfactorily make up three units of entrance conditions and at the same time obtain satisfactory grades in the first-year studies of the modern medical course, and the better colleges, recognizing that fact, have refused to admit students so heavily conditioned. In only too many of the institutions, however, such conditions are never removed or else easy makeshift methods are provided, the whole arrangement being used by many colleges as a pretense of living up to a fixed standard. By such institutions, any fixed requirement will be stretched to the farthest limit permitted by the association. Any entrance condition, the removal of which is actually required by the college, is an added handicap to the student whose burdens in the modern medical course are already becoming too heavy. This is the chief reason why a better preliminary education is necessary. To be of any practical value, however, such education must be completed before the student is admitted to the medical college. In other words, preliminary education should *be* preliminary. The amendment adopted by the association is therefore an important step in advance.

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[1] THE JOURNAL A. M. A., Feb. 4, 1911, p. 362.

[2] Note the convenience of the parcels post. There is one bright side to this picture. The doctor could get meat and vegetables by mail! In the United States—thanks to the express companies and their control of our legislative bodies—the parcels post is too limited in its possibilities; but that is another story.

PROPORTION OF PHYSICIANS TO POPULATION IN THE UNITED STATES

At a series of conferences on medical education and medical legislation, recently held in Chicago, someone made the statement that the number of physicians legally licensed to practice medicine in the United States was 120,000, making approximately one physician for every 800 people. This statement has been the basis of various newspaper comments all over the country, and so the error will be passed on till someone guesses some other number and makes the guess public. The number of physicians in the United States is variously given by various individuals—sometimes it is as low as 100,000, at others as high as 160,000. There are, at present, between 139,000 and 140,000 individuals, practically 140,000, who are licensed practicing physicians in the United States, or approximately one physician for every 650 people. But it should be remembered by those who make comments on this subject that the above figures do not include the "vitapaths," "naturopaths," "osteopaths," "panpaths," "chiropractics," "mechanotherapists," Eddyites, "magnetic healers," etc., who, whether they be said to "practice medicine" or not, are making diagnoses and are professing to treat human ailments. The number of these in practice we would not dare to estimate. Especially must the followers of these cults be considered when we are comparing the proportion of physicians to population in this country with that of some other countries where these cults do not exist.

PROGRESSIVE PREVENTION OF EPIDEMICS

The efficient handling of the cases of meningitis coming to New York from Greece within the past two or three weeks speaks well for the quarantine service at that port. All cases seem to have been promptly recognized and isolated, preventing the spread of the disease. The intensive study of this disease, which culminated in the Flexner serum, has given such an accurate knowledge of this infection that, except in communities poorly equipped with health and quarantine organizations, where the disease may gain a substantial foothold, danger of serious or prolonged epidemics is very nearly *nil.* Almost or quite as good results are assured in handling the still more deadly infections, cholera and plague; and poliomyelitis will no doubt soon be equally controllable through advance in scientific knowledge. It is a source of extreme gratification that meningitis and the other devastating infections have so far yielded to the direct attacks of science.

Medical News

CALIFORNIA

Personal.—Dr. Daniel B. Northrup, health officer of San Diego County, is reported to be ill with septicemia.——Dr. Edward R. Wagner, San Jose, has returned after six months in Europe.

Segregation Experiment.—The hospital which is to be operated in connection with the proposed plan for the segregation of prostitutes in San Francisco, opened March 21, at 684 Commercial Street, under the supervision of Dr. William F. McNutt, health officer of the city.

San Joaquin Physicians Meet.—The thirty-first semiannual meeting of the San Joaquin Valley Medical Society was held in Fresno, March 14. The following officers were elected: president, Dr. Walter E. Lilley, Merced; vice-presidents, Drs. George H. Aiken, Fresno, and Charles O. Mitchell, Laton.

Pasadena Entertainment Fund.—At a meeting of the executive committee of the Los Angeles Convention League it was announced that the physicians of Pasadena had raised a fund of $3,000 for the entertainment of delegates to the American Medical Association meeting, and that Adolphus Busch would give a barbecue on the grounds of his Pasadena home to the visitors at a cost of $10,000.

IDAHO

Personal.—Dr. Francis H. Poole, Pocatello, has been appointed superintendent of the Idaho State Insane Asylum, Blackfoot, vice Dr. Clayton A. Hoover, who will locate for practice in Pocatello.——Dr. Frank L. Barrows, Moscow, has started for Europe, via Philadelphia, where he will spend three months.——The Idaho supreme court is said to have decided that the State Board of Medical Examiners must issue a license to practice medicine to Dr. Emanuel Vadney, who has practiced for thirteen years in Morrow.

ILLINOIS

Personal.—Dr. Frank H. Jenks, assistant superintendent of the Elgin State Hospital since 1897, has resigned. Dr. Jenks has purchased the Ransom Sanitarium at Rockford and will assume charge May 1.——Dr. Lester C. Diddy, Oswego, who has been seriously ill at St. Charles Hospital, is improving. ——Dr. Clarence T. Roome has been appointed medical inspector of schools of Evanston.——Dr. Benjamin Gleeson and family, Danville, sailed for Europe, March 31.

Legislative Progress.—The osteopathic bill, House Bill No. 380, has been killed in judiciary committee of the house; the optometry bill, Senate Bill No. 140, is still in senate committee on sanitary-district affairs; and optometry bill, House Bill No. 121, is still in house committee on judiciary. These two bills, which are practically identical, should be defeated, as their enactment would be detrimental to the interest of the lives and health of the people of Illinois. For this reason they are opposed by the State Board of Health.

State Board Convictions in Chicago.—The following convictions for violation of the Medical Practice Act have been reported by the State Board of Health: V. Potenza, an old offender, fined $200 and costs.——Mrs. A. Kohler, a fortune teller who gave medicine, $100 and costs.——W. E. Krause, a "chiropractor" who claims to be a physical culturist, $100. ——Mrs. Herbert Gray, who exploits the "Novita Remedies," $100 and costs.——Rosina Bisesi, a midwife, $100 and costs, and C. J. Ostberg, a "chiropractor," convicted. McCormick, of the so-called McCormick Medical College, and a "Dr. Worth" testified. McCormick was asked whether his school was recognized by the State Board of Health. He said that it was not, nor did he ever want any recognition. Worth represented himself as an osteopathic physician who said he did not have a license from the State Board of Health nor did he care anything for the board. Ostberg appears to have been misled by McCormick.

Chicago

Personal.—Dr. Samuel J. Walker, who was operated on for appendicitis, March 23, is reported to be making satisfactory progress toward recovery.——Dr. H. Wernicke Gentles left Chicago, March 27, for a visit to Scotland.

Woman's Club to Manage Hospital.—The difficulties which have surrounded the management of Mary Thompson Hospital are to be shouldered by a committee of eight members of the Chicago Woman's Club, to be appointed by the president. These women are to act on the board of the hospital and will officially represent the active interest which the club is taking in the institution.

Additional Gift to Medical School.—At a meeting of the trustees of Northwestern University, March 23, it was announced that James H. Patten had added $50,000 to his gift of $200,000 for the establishment of a department of research on infectious diseases, at the medical department of the university. Everything will be ready in the fall for the opening of the laboratory and the start of research work.

To Celebrate Foundation Day.—Northwestern University will celebrate the twenty-fifth anniversary of the founding of the School of Pharmacy, April 12 and 13. In conjunction with the celebration, the faculty, alumni and students of the school have planned special exercises in honor of the dean, Oscar Oldberg, who will have completed twenty-five years of service at that time, and expects to retire from active duty because of ill health.

INDIANA

Medical Students in Accident.—Harry H. McCoy and Claude Niedhamer, students of the Indiana University College of Medicine, were struck by an interurban car near Indianapolis, March 24. McCoy was killed and Niedhamer was seriously injured.

Antituberculosis Society Organized.—The White Plague Warfare Recruits, with headquarters at Frankfort, has been incorporated. The organization has no capital stock, but its object is to fight tuberculosis, and it plans to buy property, build fresh-air camps and conduct warfare against white plague.

Personal.—Dr. George J. Studer, who has been seriously ill at the Lutheran Hospital, Fort Wayne, is reported to be considerably improved.——Dr. Eduard J. McOscar, Fort Wayne, has returned from a five weeks' trip to Central America and Panama.——Dr. and Mrs. George W. Combs, Indianapolis, left for Europe, March 23.

IOWA

Personal.—Dr. David T. Martin, Pomeroy, who was seriously injured in a runaway accident, is a patient in Mercy Hospital, Fort Dodge.——Dr. George P. Hanawalt, Des Moines, who has been seriously ill with asthma, is reported to be convalescent.——Dr. John C. Lewis, Ridgeway, is said to have sold his practice and is about to retire.——Dr. Gershom H. Hill has been elected president of the Associated Charities of Des Moines.

Faculty Changes.—Rudolph Flebbe, Ph.D., a graduate of pharmacy of the University of Leipsic, and later assistant in the government agricultural research station, has been secured as head of the clinical laboratory, of the pathologic department of Drake University Medical College, with the title of instructor in pathology. His time will be devoted almost entirely to individual research and the supervision of research work of special workers in his laboratory.——Dr. Hubertus J. M. Hoeve, for several years instructor in anatomy in the Medical Department of Drake University, will, it is said, sever his connection with that institution at the end of the winter semester.

MARYLAND

Portrait Presented.—The friends of Dr. Charles M. Ellis, Elkton, have had painted a portrait of him, which will be presented to the Medical and Chirurgical Faculty of Maryland, of which he was once president.

New Hospital.—The trustees of Havre-de-Grace Hospital take possession of the Baker property, April 1. Articles of incorporation have been filed and the first instalment of the purchase price is ready. Work on the building will soon commence.

Baltimore

Must Give Up Private Practice.—It is announced that the members of the medical and surgical staff of Johns Hopkins Hospital will be required to give up private practice and devote themselves exclusively to the work of the hospital.

Personal.—Dr. Ernest H. Gaither sailed for Germany, March 25.——Dr. James M. H. Rowland is suffering from an infection of the right hand.——It is announced that Dr. Alexius W. McGlannan has resigned as chief surgeon of the Maryland National Guard.

Department of School Hygiene.—Baltimore is to have a department of school hygiene in connection with the Department of Health. The plan originated with Dr. John M. T. Finney. Most of the diseases and mental weaknesses found among school children are believed to be due to unsanitary conditions in the schools.

Pasteur Institute Report.—During the last year 123 persons were treated at the Pasteur Institute, 20 in wards, and 103 at their homes. There were 53 persons bitten by animals demonstrated to be rabid by cerebral inoculation of rabbits. Wounds were inflicted by dogs in 113 cases, cats in 7, horses in 2 and by a calf in 1. One death occurred.

MASSACHUSETTS

Awarded Medal for Bravery.—Dr. Francis E. Park, Stoneham, has been awarded a medal for bravery by the Massachusetts Humane Society for the rescue of a laborer in a sewer overcome by fumes from a tannery.

College Building Enlarged.—Tufts College Medical School, Boston, has enlarged and remodeled its college building at an expense of approximately $50,000. A fourth floor has been added to the entire building and several important changes have been made on the other floors.

Personal.—Dr. William M. Gay has been appointed port physician of Boston.——Dr. Francis X. Crawford succeeds Dr Gay as assistant port physician.——Dr. Bertha F. C. Frommell, Fairhaven, has been elected a member of the board o health of New Bedford.——Dr. Charles A. Reese has bee elected a member of the board of health of Wellesley Hills.——Dr. Paul Carson, formerly port physician of Boston, has bee transferred to the division of school hygiene.——Dr. Simeo B. Wolbach, assistant professor of bacteriology in Harvar Medical School, has started for West Africa, to study sleeping sickness.——Dr. Samuel H. Durgin has been reappointed chairman of the Boston Board of Health.——Dr. Richard Collin has been appointed a member of the Waltham Board of Health ——Dr. Frederick F. Andrews has been reelected a member o the Revere Board of Health.

MINNESOTA

State Health Department Bulletin.—The health departmen announces that it will issue in a few days, the first numbe of a monthly bulletin in pamphlet form, which will contain al statistics pertaining to the department.

A New Antituberculosis Association.—An antituberculosi association has been organized in Crookston, with Dr. Thoma Spence as a member of the board of directors, and Dr. Halvo Holte as chairman of the finance committee.

Physicians' Building.—Plans have been made for the erection on the Stewart Homestead, Hennepin Avenue and Fourt Street, Minneapolis, of a ten-story reenforced concrete building for physicians and dentists, to cost about $700,000.

Unlicensed Doctor Fined.—Henry Wuerzinger, Minneapolis is said to have been found guilty, March 2, of practicing medicine without a license and fined $50.. This action is said to b the result of internal strife in the Minnesota Association o Naturopaths, which made the complaint, and of which th defendant formerly was president.

Personal.—Dr. Paul B. Cook has been appointed first assistant to the commissioner of health of St. Paul, vice Dr. John M Armstrong.——Dr. Gustav A. Rentz, formerly health commissioner of St. Paul, leaves this month for Europe.——Dr. Gusta A. Magnusson, Aitkin, has been appointed instructor in bacteriology and pathology at the State University.

Physicians' Wives Meet.—The Woman's Auxiliary of Hennepin County Medical Association held its annual meeting i Minneapolis, March 13, and elected the following officers president, Mrs. William J. Byrnes; vice-presidents, Mrs. Charle A. Donaldson and Mrs. Thomas F. Quinby; recording secretary Mrs. J. Frank Corbett; corresponding secretary, Mrs. Ernes Z. Wanous, and treasurer, Mrs. Charles H. Hunter, all o Minneapolis.

Election.—At the annual meeting of Washington Count Medical Society, held in Stillwater, March 14, the followin officers were elected: president, Dr. Edgar O'B. Freligh, Stillwater; vice-presidents, Drs. James Haines, Stillwater, an Frederick A. Stevens, Lake Elmo; secretary-treasurer, D Wade R. Humphrey, Stillwater; censor, Dr. Burton J. Merril Stillwater, and delegate to the state association, Dr. Ernes E. Wells, Stillwater.

NEW YORK

Eyeglasses for Pupils.—Assemblyman Levy has introduce a measure which would require the Board of Education of Ne York City to furnish eyeglasses or spectacles to pupils in th public schools. This it is estimated would require the Boar of Estimate and Apportionment to appropriate $15,000 annually for this purpose.

The Insane.—There are now in this state 32,657 insane persons in hospitals, or about 1 to every 200 of the adult population. In 1890 the number of insane in hospitals and almshouses in this state was 16,006; this shows an increase o 104 per cent. The cost of caring for insane persons in th state hospitals last year was $5,659,942.76. The average cos for additional buildings for the insane would be about $1,000,000 if all were properly housed. During the past ten yea the state has spent for the care of the insane $54,018,36 About one-sixth of the total expenditure of the state is for th insane. It equals an annual tax of 70 cents on every ma woman and child in the state.

New York City

Increased Capacity at Beth Israel Hospital.—By the opening of a new ward, at a cost of over $10,000, the capacity of this institution has been increased to 140.

Personal.—The board of trustees of Bellevue and Allied Hospitals has appointed Dr. George O'Hanlon general medical superintendent, vice Dr. Winford H. Smith.

Hospital May Sell Buildings.—The directors of St. Andrew's Convalescent Hospital have received permission to sell the buildings of that institution for $27,000. It is the intention of the officials to move to new buildings on East Seventeenth Street.

Give Fund for Training School.—Mr. and Mrs. William Church Osborn, New York City, have presented a building costing $250,000 to be used as a club home and registry for nurses, the building to be known as Osborn Hall in memory of the late Mrs. William H. Osborn, to the Bellevue Training School for Nurses.

New Dispensary in Brooklyn.—The New Utrecht Aid Society has been formed with the object of opening a dispensary for the poor in the Parkville, Kensington, Windsor Terrace, and Borough Park sections of Brooklyn. The dispensary will be non-sectarian. The staff includes Drs. H. M. Calvin, John J. Masterson, M. B. Gordon, O. C. Stackhouse, J. J. Rosenthal, Edmund G. Silverman and Morgan T. McSheehy.

Health Bulletins.—The latest bulletins of the Department of Health of New York City urge parents to have children promptly vaccinated; advise parents who intend obtaining employment certificates for their children to secure the requisite evidence of age in the shape of birth certificate as early as possible; and decry the danger of the spread of cerebrospinal meningitis in the city, and call attention to the methods pursued by the board of health in guarding against a possible invasion of this disease.

Reduction of Infant Mortality.—The Committee on the Reduction of Infant Mortality of the New York Milk Commission is endeavoring to raise $200,000 to establish sixty milk depots; nearly $40,000 has already been raised. These depots will be conducted along the lines of those of the department of health. The committee states that there are born annually 65,000 babies in Manhattan; of these 12,000 need the aid of milk depots, 4,000 already receive it, and the remaining 8,000 the committee proposes to save. There are probably 16,000 poor babies in Manhattan under 1 year old who succumb to disease every year; probably half of this number could be saved with proper care and nourishment, such as could be given with the aid of milk depots.

The Need of Medical Missionaries.—On March 11, a mass meeting of medical students, hospital interns, and other practitioners was held at the Academy of Medicine to lay before the medical profession the demand for modern practitioners in unchristianized and uncivilized countries. Dr. William M. Polk, president of the academy, was in the chair, and in his introductory remarks, spoke on "The Medical Pioneer." He then introduced Sir Wilfred T. Grenfell of Labrador, who made an earnest appeal for men to devote their lives to the practice of medicine in foreign lands. He then showed by lantern slides the development of his own work in Labrador and Newfoundland. There were about 400 medical students and physicians at the meeting, which was promoted and held under the auspices of the Student's Club, the Intercollegiate Branch of the Young Men's Christian Association of New York City. There are already fifteen students in the medical schools in New York City who plan to go as medical missionaries to foreign lands.

PENNSYLVANIA

Clinical Society Election.—The annual meeting of North Penn Clinical Society was held in Sellarsville, March 15. Dr. James I. Cawley, Springtown, was elected president; Dr. J. Warren Bauman, Lansdale, vice-president; Dr. Walter H. Brown, Richlandtown, secretary, and Dr. John J. Ott, Pleasant Valley, treasurer.

Woman's Medical College.—A modern well-equipped clinical amphitheater has been erected recently for the Woman's Medical College of Pennsylvania at a cost of about $22,500, and is now in use. The building includes a complete sterilizing plant, anesthetizing and recovery rooms, dressing rooms for surgeons and assistants, and waiting rooms for patients. ——Beginning with the session of 1911 and 1912, entrance conditions at the college will be reduced from six to four points. Inorganic chemistry will not be accepted as an entrance condition but will be required in every case. This subdivision of chemistry will no longer be part of the work of the first year.

Personal.—Dr. Samuel G. Dixon, Commissioner of the State Department of Health, has appointed Dr. T. Ben Johnson, of Towanda, to succeed the late Dr. Skiles M. Woodburn as county medical inspector of Bradford County and chief of the state department of health tuberculosis dispensary in Towanda.——Dr. John A. Bouse, special state medical inspector, is dangerously ill at his home in Harrisburg, with valvular heart disease. Dr. Bouse had charge of the state health's department tuberculosis exhibition and superintended its presentation in the various cities throughout the state.——Dr. Colley Johnson Miller, Brownville, is seriously ill in St. Francis' Hospital, Pittsburg, as the result of an attempt at suicide, made March 20, while he was mentally irresponsible.——Dr. John B. Carrell, Hatsboro, sailed for Europe, March 23.——Dr. Cyrus L. Stevens, Athens, has been elected secretary of the Bradford County Medical Society, vice Dr. Skiles M. Woodburn, Towanda, deceased.

Philadelphia

President Guest of Medical Club.—President Taft has accepted the invitation of the Medical Club of Philadelphia to be its guest on the evening of April 21.

Gifts to Hospitals.—The will of the late Ellis H. Yarnall contains a contingent bequest of $200,000 to the Episcopal Hospital.——Under the will of Catherine Boyle, St. Mary's Hospital receives $5,076.67.

Personal.—Dr. E. Avery Newton, formerly of Philadelphia but now of Bad Nauheim, Germany, is taking a trip round the world.——Dr. W. E. Keplar has been appointed assistant medical inspector of the bureau of health.

Hospital Staff Election.—The Samaritan Hospital Staff has chosen the following officers: president, Dr. Jesse O. Arnold; secretary, Dr. Charles S. Barnes, and Chairman of the executive committee, Dr. Daniel J. Donnelly.

Weir Mitchell Lecture.—The second of the Weir Mitchell lectures of the College of Physicians, was delivered March 30, by Dr. Edmund B. Wilson, professor of zoology in Columbia University, on the "Cellular Basis of Heredity."

University Publication Discontinued.—The *Medical Bulletin of the University of Pennsylvania* ceased publication March 20 after an existence of twenty-three years. The bulletin was a monthly magazine which circulated largely among the medical alumni of the university, especially those living in Philadelphia.

Case of Beriberi.—A Norwegian vessel, which arrived at Marcus Hook Quarantine Station, March 23, was found to have a case of beriberi aboard. The sailor had been suffering for several weeks and no special effort at isolation had been made. He was sent to Marcus Hook Hospital and the other members of the crew were given a thorough examination.

German Hospital Addition.—On March 18, the cornerstone of the new $100,000 addition to the German Hospital was laid by Herman Hessenbruch, president of the institution. When finished the building will be used as a maternity hospital and nurses' home, will be a five-story granite and brick construction, fire-proof throughout, equipped with elevators and other modern conveniences and will accommodate sixty nurses.

Elections.—At the last meeting of the Philadelphia Neurological Society the following officers were elected to serve for 1911: president, Dr. Alfred R. Allen; vice-presidents, Drs. John H. W. Rhein and Samuel D. Ingham; secretary, Dr. George E. Price; treasurer, Dr. S. DeWitt Ludlum; councilors, Drs. James H. Lloyd, H. H. Donaldson and Francis X. Dercum. ——The officers of the Medicolegal Society for 1911 are: president, Dr. Lambert Ott; first vice-president, Clarence Loeb, Esq.; second vice-president, Dr. William D. Robinson; secretary, Dr. William T. Hamilton; treasurer, Dr. George M. D. Peltz; censors, Dr. Francis J. Kelly, James H. Wolfe, Esq., and Dr. Louis D. Bauer.

To Begin Work on Phipps Institute.—As soon as the contract can be made, the University will begin the erection of the Phipps Institute for the study and treatment of tuberculosis, which will be located at the northeast corner of Seventh and Lombard Streets. Plans for the building were filed with the Bureau of Building Inspection by the architect on March 16. The lot which the building will occupy extends from Lombard Street to Seventh Street, directly opposite Starr Garden Park. The building will be a five-story and basement fire-proof and brick structure with a frontage of 147 feet on Seventh Street from Addison to Lombard and a depth of 132 feet on Lombard Street. The main entrance will be on Seventh Street. The Lombard Street front will be built with two wings with a sunken garden between, the whole surrounded by iron railings. In the basement of the building will be a library, lecture hall, lavatories, mechanical rooms, etc. The second floor will have a large laboratory for experimental work and the third, fourth and fifth floors will be mainly devoted to large open-air wards. The accommodations will be such that treatment can be given to several indoor and outdoor patients. The cost of the building will be about $300,000.

Plans for New City Institutions.—On March 18, the mayor approved an ordinance, appropriating to his department $150,000 for the purchase of land that might be needed for public improvements. The mayor proposes using $135,000 to buy the Alexander Brown tract of wooded land, comprising 135 acres, adjoining the Torresdale Filtration Plant, for the purpose of building thereon an institution for the care of the feeble-minded and a home for indigent women. Instead of erecting one great building for the feeble-minded, the plans call for the erection of separate cottages with a central heat, light and power plant. The city already owns 55 acres of ground adjoining the house of correction, at Holmesburg, where it is proposed to build a home for indigent men. The city also owns the Byberry tract of 800 acres of unimproved land. This is to be the site of the Philadelphia Hospital for the Insane. The state will cooperate with the city in its establishment, for which appropriation bills are now pending in the legislature. This divorce of the almshouse and feeble-minded department from the Philadelphia General Hospital will give wider scope and development to that institution. It is proposed to furnish heat, light and power for the Holmesdale and Torresdale institutions from the power plants operated in connection with the house of correction and the Torresdale low-lift pumping station. There is nearly $800,000 already available for the establishment of these homes for the indigent and with the balance of $150,000 for the acquirement of land, municipal improvements can begin at once.

SOUTH CAROLINA

Meeting of State Society.—The annual convention of the South Carolina Medical Association will be held in Charleston, April 19-21.

Personal.—Dr. G. DeFoix Wilson, Spartanburg, charged with violating the health ordinance of the city by failure to report cases of small-pox, was exonerated when the case was tried. ——Dr. Isadore Schayer, Laurens, has been designated to inspect the property and personnel of the national guard of the state.

Penitentiary Health Conditions.—The senate has adopted the report of the medical affairs committee, with the recommendation that the State Board of Health be requested at once to make a thorough investigation, and to make such recommendations for the removal of the cause of complaint, if any such cause be found, as in their judgment will best preserve the health of the convicts confined in the state penitentiary.

County Physicians Elect.—At the annual meeting of the Laurens County Medical Society, held in Laurens, the following officers were elected: president, Dr. Thomas L. W. Bailey, Clinton; secretary-treasurer, Dr. Jesse H. Teague, Laurens; delegates to the state medical association, Drs. W. Dorroh Ferguson and Rolfe E. Hughes, Laurens, and alternates, Drs. Thomas L. W. Bailey, Clinton, and Jesse H. Teague, Laurens. ——Sumter County Medical Society, at its meeting in Sumter, elected Dr. H. Ashley Mood, president; Dr. William E. Mills, vice-president; Dr. Edwin R. Wilson, secretary-treasurer; and Dr. Charles J. Lemmon, delegate to the state medical association, all of Sumter.

SOUTH DAKOTA

New Hospital.—Physicians of Yankton and vicinity met at Sacred Heart Hospital, February 28, to inspect designs for the new hospital to be erected on Mount Marty. The building will have a frontage of 220 feet with wings of 80 feet, will be five stories in height, and estimated to cost about $250,000.

Society Charter Revoked.—On the recommendation of the councilors, the house of delegates of the South Dakota State Medical Association, February 21, revoked the charter of the Hot Springs (Tenth District) Medical Society on account of unprofessional conduct on the part of some of the members. The society had failed to take action, after being requested to do so

WISCONSIN

Home for Feeble-Minded.—A bill introduced in the legislature by Senator Hoyt provides for an appropriation of $150,000 for the purpose of securing a site of not to exceed 1,00 acres, near Milwaukee, for a state home for the feeble-minded

Unlicensed Practitioner Convicted.—Rev. J. P. A. Nordin head of Nordin Institute for Dependent and Deformed Children, Milwaukee, is said to have been found guilty of practicing medicine without a license, and fined $50 and costs.

One Institution for Tuberculosis.—At a recent meeting o the Milwaukee County Medical Society, a resolution introduced by Dr. Gilbert E. Seaman, approving the idea of th city to incorporate all institutions dealing in any way wit the tuberculosis problem under one general head, was adopted

Fraternity Election.—The Kappa Chapter of the Alph Kappa Kappa Fraternity held its annual election in Milwaukee March 17. Dr. Daniel Hopkinson, Milwaukee, was reelecte president; V. Brumbaugh, vice-president; P. Braman, recording secretary; W. Schnell, corresponding secretary, and P. R Noe, treasurer.

Election.—At the annual meeting of the Outagamie Count Medical Society, held in Appleton, March 7, Dr. Victor F Marshall, Appleton, was elected president; Dr. John J. Laird Black Creek, vice-president; Dr. Frank P. Dohearty, Appleton secretary-treasurer, and alternate-delegate to the state society; Dr. Gerald C. Maes, Kimberly, censor; and Dr. Charles D Boyd, Kaukauna, delegate to the state society.

Directors of Antituberculosis Association Meet.—At a meeting of the directors of the Wisconsin Antituberculosis Association, a new constitution and by-laws was adopted, and a ne board of directors was elected, which in turn elected th following officers: president, Dr. Mazyck P. Ravenel, Madison vice-presidents, Prof. Louis E. Reber, Madison; and Dr. Gustave Windesheim, Kenosha; secretary, Dr. Clarence A. Baer Milwaukee; treasurer, John H. Kopmeier, Milwaukee; an executive committee, the president, first vice-president, secretary, treasurer, and Dr. John W. Coon, Wales. It was reporte that $27,313.94 had been realized from the sale of Red Cros seals during the Christmas vacation.

GENERAL NEWS

The Study of Narcotics.—The American Society for th Study of Alcohol and Other Narcotics will hold its fortiet annual meeting in Baltimore, April 19 and 20. Histori addresses and scientific papers on laboratory and clinica research work on alcohol, inebriety and narcotics will be presented. Dr. Thomas D. Crothers, Hartford, Conn., is secretary

Service Schools Close.—The commencement exercises of th United States Navy Medical School were held, March 23, i Washington, when a class of thirteen was graduated.——Th Army Medical School, Washington, has been closed tw months in advance of the usual period in order that the service of the graduates may be utilized in the maneuvers o the Mexican frontier.

Missouri Valley Meeting.—The twenty-third s[illegible] meeting of the Medical Society of the Missouri Va[illegible] held in St. Joseph, March 16 and 17, under the pre[illegible] of Dr. Donald Macrae, Council Bluffs, Ia. On the first e[illegible] Dr. Henrich Stern, New York City, delivered the oration i medicine on "Decay of Nations." Dr. Oliver C. Gebhart, St Joseph, was elected treasurer to succeed Dr. Thomas B. Lacey Jr., Council Bluffs, resigned. A report of the scientific proceedings will appear in The Journal.

A Disclaimer.—The following members of the faculty o the University of Liverpool desire to disclaim any credit o responsibility attached to statements made or conclusion drawn in a book by Mr. H. C. Ross and Dr. J. W. Cropper just published by Messrs. John Murray and Sons, entitle "Induced Cell Division and Cancer:" R. J. Gibson, professo of botany; W. A. Herdman, professor of zoology; B. Moore professor of biochemistry; Dr. S. C. Sherrington, professor o *physiology* and J. Reynolds Green, lecturer on vegetable chemistry. These gentlemen state that they have had *no opportunity* of seeing the work either in manuscript or in proof.

Gastro-Enterologic Program.—The preliminary program for the fourteenth annual meeting of the American Gastro-Enterological Association, which is to be held in Philadelphia, April 18-20, contains a number of interesting titles, among which are the following: "The Relation of Symptoms to Pathologic Findings in Cancer and Ulcer of the Stomach," by Dr. Joseph Colb Bloodgood, Baltimore; "Operative Treatment of Impermeable Cardiospasm," by Dr. Willy Meyer, New York City;

"The Gastric Weak Line in Wounds of the Abdominal Wall," by Dr. Robert T. Morris, New York City; "Study of Anthropometry of Enteroptosis," by Dr. John C. Hemmeter, Baltimore; "The Cammidge Reaction in Tuberculous Cases," by Dr. Charles D. Spivak, Denver; and "Duodenal Ulcer," by Drs. Lewis Brinton, Philadelphia; James T. Pilcher, Brooklyn; John A. Lichty, Pittsburg, and A. L. Benedict, Buffalo.

Control of Bovine Tuberculosis.—The meeting of the International Commission on the Control of Bovine Tuberculosis was held in Buffalo, February 27, at which it was decided that the first task of the commission should be the preparation of material for a small pamphlet on the subject of bovine tuberculosis for the general public, especially stock owners, and embodying full statements of available information on the subject so far as it concerns stock owners in a practical way, and so far as such information is acceptable to the commission. The committee entrusted with the preparation of the pamphlet consists of Dr. Veranus A. Moore, Cornell University; Dr. John R. Mohler, Federal Bureau of Animal Industry; J. J. Ferguson, representing the American packers; Dr. Myron H. Reynolds, St. Paul, Minn., representing the American veterinarians; and Dr. F. Torrance, Manitoba, representing the Canadian veterinarians. The next meeting of the commission will be held in Toronto in August.

CANADA

New Bacteriologic Laboratory.—Plans for the new bacteriologic laboratory in the city hall, Toronto, were passed by the board of control, March 22, and an appropriation of $9,000 was made to cover the cost of construction.

Bequests to Hospitals.—By the will of the late Charles Burd, Montreal, $10,000 is bequeathed to the Montreal General Hospital; $5,000 to the Protestant Hospital for the Insane; $2,500 to the Western Hospital, and $2,000 to the Alexandria Hospital.

Personal.—Dr. Helen MacMurchy, Toronto, for the last six years editor of the *Canadian Nurse*, has resigned from that position.——Dr. John Gaven, Toronto, has returned from Florida.——Dr. George R. McDonagh, Toronto, returns from Barbadoes this month.——Dr. Thomas G. Roddick has been elected president of Alexandria Hospital, Montreal.

Hospital Notes.—Western Hospital, Montreal, admitted 1,291 patients in 1910, and treated 1,358. In the outpatient department 12,878 patients were treated.——The Royal Victoria Hospital, Montreal, admitted 4,309 patients during the year and cared for 4,532 in the outpatient department; 297 deaths occurred during 1910.——Alexandria Hospital, Montreal, treated 820 patients during the year with a mortality of 47.

The War Against Tuberculosis.—At the meeting of the Winnipeg Antituberculosis Society, March 14, the superintendent of the Ninette Sanatorium, reported that Winnipeg has the best record for tuberculosis cases. The secretary reported that addresses had been given on 22 occasions before clinics, societies, etc., and before 65 classes in Winnipeg public schools, and that in the same time 2,500 visits had been paid to 202 patients suffering from tuberculosis, of whom 48 died.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, March 18, 1911.

Plague and Its Spread

Mr. James Cantlie, of the London School of Tropical Medicine, who has spent many years in the East where he helped to found a medical college for the Chinese, is well known as an authority on plague, and during recent years has been charged with the examination of every person in London suspected of plague, recently delivered a lecture on "Plague and Its Spread" before the Royal Society of Arts. The prevalence of plague in the world in epidemic form since 1894 was, he said, a matter of supreme interest to every nation. The question arose: has the virulence of the malady spent itself and may we look forward to abatement of the pandemic? The history of previous epidemics did not engender a hopeful answer; indeed the opposite obtained, for all previous outbreaks indicated the long continuance of plague in every community in which it had gained a hold. There were three stages of plague: (1) *pestis minor*, which was carried only by insects from diseased animals, always local, a household outbreak in fact, in which the pseudoplague bacillus is found in man; (2) bubonic plague, carried from man to man by insects; (3) pneumonic plague passing from man to man without the intervention of insects. Time was required for one plague type to change into another more virulent, until at last plague no longer required an animal host but became wholly a disease of man. An important point in the epidemiology of plague was that animals, chiefly rodents—the rat in many places, the marmot in north China and the squirrel in the United States—might suffer for years without infecting man, except in a sporadic way. In north China this had been proved to be the case and in any country where rodents were infected this might be expected.

Precautions in London Against Rat Plague

The following regulations "for the prevention of an outbreak of plague among rats at the docks" have been adopted: All ropes and mooring tackle shall be fitted with such effective guards as will prevent access of rats from the vessel to the shore. For breach of this regulation the penalty is one not exceeding $25. 2. All possible means shall be adopted for catching and destroying rats during the stay of any vessel in dock. All empty cases and barrels shall be examined before being landed to ensure that no rats are contained therein. Any rats caught on board the vessel shall be killed and then placed in bucket of strong disinfecting solution and burnt in the ship's furnace. The same penalty is enforced for breach of this regulation. 3. When the discharge of cargo or the landing or embarking of passengers is not proceeding only one gangway shall be permitted between the vessel and the shore. The end near the vessel shall be whitened for a length of 10 feet. The same penalty is enforced for breach of this.

The Small-Pox Epidemic in London

The number of cases of small-pox which have occurred in London in the present outbreak now numbers fifty-eight. The London County Council has resolved that for a period of three months chicken-pox shall be a reportable disease, experience having proved that slight cases of small-pox are sometimes mistaken for chicken-pox.

The New House of the Royal Society of Medicine

In the heart of medical London a handsome building is being erected which will provide ample accommodation for the Royal Society of Medicine for many years, even if the membership of the society continues to increase in the manner expected. The area of ground is nearly 10,000 square feet. The building will consist of basement, ground floor and three upper floors. On the ground floor will be a spacious vestibule and two halls—one capable of holding about 500 and the other 150 persons and patients' rooms for each sex. The whole of the first floor will be occupied by the library, and the offices of the secretary, editor and clerks. The library will be 110 feet long, 28 feet wide and 19 feet high. The periodical room will be an annex. There will be a gallery all round and a mezzanine room with additional tables for readers. On the third floor will be a museum, a room equipped for the examination of specimens and histologic work, a smoking room, and a tea and conversation room. The cost will be $150,000, of which $60,000 has been promised or collected.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 17, 1911.

Dedication of the Monument to Professor Cornil

March 5, at the Ecole pratique of the Faculté de médecine the monument in honor of Professor Victor Cornil was dedicated. The ceremony was presided over by M. Fallières, the president of the republic, and a great number of professors and political notables were present, Cornil having been a deputy and senator. Among the addresses given was one by Professor Landouzy, who mentioned that Cornil was the real founder of pathologic histology in France.

The monument is the work of Dr. Paul Richer, who is a member of the Académie de médecine and the Académie des beaux-arts. The design is an architectural one, with a laurel-decorated summit surmounted by the bust of Cornil. The center is occupied by a bas-relief representing Cornil's pathologic-anatomic laboratory, with flasks of reagents and microscopes on tables, and a body stretched on a slab ready for the autopsy. An allegorical figure of Truth, seated by one of the angles of the base in a grave and meditative pose, holding a palm-leaf, seems to glorify the fruitful labor of the master who has found in the analysis of diseased organs the true causes of death. The bust is in marble, the architecture in stone, and the bas-relief and the allegorical figure in bronze;

the base bears the inscription *A Victor Cornil, ses élèves, ses amis.* "To Victor Cornil from his pupils and friends;" on the posterior face of the monument is the inscription: *Victor Cornil, 1837-1908; professeur d'anatomie pathologique à la Faculté de médecine de Paris, 1882-1907.*

Salvarsan and Advertising

As was to have been expected, the discussions about Ehrlich's discovery, even (not to say especially) in non-medical circles, have given an opening to all kinds of charlatans to make use of the famous German scientist's name for their advertisements. For some time supposedly scientific articles on salvarsan have been appearing in the lay press. They state that "all syphilitics without exception are amenable to 606," that "606 is the veritable vaccine of syphilis," etc. Finally, comes the declaration that to obtain the maximum efficacy it is necessary to send to some "serotherapeutic institute" or "laboratory of biology." It is unnecessary to say that these are institutes and laboratories only *in name.*

Personal

On March 7 the Académie de médecine elected a member in the section of anatomy and physiology to replace Professor Farabeuf, who died last August. The new member is Dr. Prenant, who was, three years ago, chosen to be professor of histology of the Faculté de médecine de Paris and who was previously professor at the Faculté de médecine de Nancy.

In the session of March 14 the Académie de médecine elected two national correspondents in the section of medical pathology. These were Dr. Lannois, adjunct clinical professor of laryngology, otology and rhinology at the Faculté de médecine de Lyon, and Dr. Maurel, professor of experimental pathology at the Faculté de médecine de Toulouse.

On March 13 the Académie des sciences elected Professor Pawlow of St. Petersburg as correspondent in the section of medicine and surgery.

Professional Responsibility of Surgeons and Physicians

At a meeting of the Association de l'internat des hôpitaux de Paris on March 17 this timely question was treated from the legal point of view by M. Colin, professor at the Faculté de droit de Paris. In general, M. Colin mentioned that two conditions were necessary to make the surgeon responsible: the first was material or moral harm to the patient; the second was fault on the part of the surgeon, which might be either medical or non-medical. The latter would be within the competence of the ordinary judge. But how and by whom should serious medical fault be judged? M. Colin believes that an expert alone can appreciate a medical fault, and that his rôle is not always easy. One runs the risk of stifling all initiative and arresting progress by condemning a new treatment or an audacious procedure. M. Colin mentioned the reply of Velpeau in regard to the first accidents due to chloroform: "It is not the surgeons who have need of chloroform; it is the patients." After reviewing the jurisprudence on this subject, which is not well defined, M. Colin advised physicians and surgeons to form associations for mutual insurance as the only means of defending themselves, for they are now often the prey of blackmailers.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, March 10, 1911.

Death of van 't Hoff

A few days ago in a suburb of Berlin, there died at the age of 59, from a lung disease of some years' standing, the renowned chemist and honorary professor in the Berlin university, J. H. van 't Hoff. [See editorial, March 18, page 818.] He was born in Rotterdam in 1852 and studied in Leyden, Bonn, Paris and Utrecht, devoting himself to the natural sciences; he was appointed privat-docent at the latter university in 1876, and in 1888 became the founder and chief of the laboratory for physical chemistry. In 1896 he accepted a call to Berlin as regular honorary professor. His work was epoch making in the development of physical chemistry. The most important of his scientific works are his new thory of solution in which the identity of the gas pressure and the osmotic pressure was demonstrated and a new method of measuring the molecular weight was discovered, and his investigations of the spatial relations of the atoms, with which he laid the foundations of stereochemistry. Also for medicine his work on osmosis has been most fruitful in advancing our understanding of the processes of metabolism. Van 't Hoff was a member of the academy of sciences, and most of the academies of the world, knight of the order "pour le mérite" and recipient of one of the Nobel prizes.

Bill Against Quackery

The committee of the Reichstag appointed to consider the bill for restriction of unqualified practice of medicine, contrary to expectation is deciding on considerable concessions which weaken the original draft of the bill. In fact, the conservatives and the representatives of the center are inclined to support all kinds of quackery, and especially the form of mystical treatment (cure by prayer, by laying on of hands, rubbing, magnetism and the like), and express views that often unintentionally have a ludicrous effect and show that scientific ideas are not very widespread even among intelligent people. One member belonging to the center group stated that he had lately come to question whether magnetism might not actually prove a curative agent. As evidence, he brought a long letter from a young lawyer in which the author averred that by means of therapeutic magnetism he had been enabled to pass his examination for the bar, and that he had also been cured of a nervous affection, so that he was able to marry. Another assured the committee that a person in high position has recommended as a remedy against epilepsy the pulverized feces of a still virgin billy goat. Hence it is not strange that the original bill is weakened and that magnetism has been separated from the class of forbidden mystic curative measures. Meanwhile, one may cherish the hope that the essential part of the bill will be accepted, and that some good will be secured for the public health so far as it suffers from quackery.

A University at Frankfort

For many years those interested at Frankfort-on-Main have been endeavoring to expand the present medical and other institutions into a university. On the part of the government there is no great tendency to increase the number of universities, and it must be admitted that Frankfort does not possess favorable conditions for a new foundation. The university of Marburg and that of Giessen are situated in the near vicinity and would surely be injured by the new university. In large cities overcrowding of the lecture halls soon manifests itself, so that instruction suffers, and this condition would very probably soon be the rule at Frankfort. To be sure, the consent of the government may be facilitated by the circumstance that Frankfort would furnish the means for founding and supporting the university institutions. These would not need to be much increased, at any rate in the medical field, as the most necessary teaching places for this faculty are already provided in the municipal hospitals, in the "Georg-Speyer house," in the institute for experimental therapy, in the Edinger Institute, etc. The proposition submitted by the city government has only three university departments in view: law, philosophy and medicine.

New Bill on Cremation in Prussia

As I mentioned in a previous letter, the opposition in religious circles to the legal permission for cremation in Prussia is to be disregarded by the government, and a bill for its legalization has been very lately introduced into parliament. According to the bill, cremation will be permitted only in establishments licensed by the national police. The permission may be revoked if the arrangements do not correspond to technical requirements, or if a suitable room for the reception of corpses is not provided, or if there are objections on the part of the police. The cremation can take place only when the following conditions have been complied with: an official death certificate, an official medical certificate of the cause of death, proof that the deceased has ordered the cremation of his body, and a certificate of the local police authorities at the place of death that there are no objections to cremation, and especially that there is no suspicion that the death was due to crime. The order is effective only if the deceased was 16 years of age, and it cannot be made by a repesentative. A necropsy is to be held if one of the attending physicians considers it necessary in order to establish the cause of death. Penalties are provided for the transgression of this and other provisions. In the prologue of the bill it is pointed out that the objections to cremation from the standpoint of justice, and especially of criminal law, are no longer of great importance in the present state of medical or chemical science, while the interests of religion will not be materially affected by the sanction of cremation. The bill will undoubtedly be strongly opposed by the numerous orthodox representatives in the Prussian parliament, who are especially among the conservatives and the center, but it is to be hoped that the measure will finally be passed.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 13, 1911.

High Morbidity and Mortality in Vienna

The health report for the first part of the year 1911 contains unpleasant news for the inhabitants of this city. The percentage of diseases and deaths has not been so bad for more than twenty years. The present epidemic of influenza is responsible for these conditions. The last epidemic was in 1889, when the mortality was 16 per cent. Since then we have had only occasional outbreaks. This winter, however, there were more than 19,000 persons laid up at the same time—at least so many have been reported by the physicians. Apart from influenza, other epidemic diseases were also prevalent during January and February, although they were all of a mild type. The doctors practicing among that part of the population which is entitled to free medical aid, have reported 335 cases of scarlet fever, 202 of diphtheria, fourteen cases of typhoid fever, 113 of erysipelas, 519 of measles, 160 of pertussis, 335 of varicella, and 227 of parotitis. There were 851 cases of fresh infections of tuberculosis and scrofulosis reported, while 1,214 persons of this class suffered from fresh disease of the alimentary canal. There died in this month of January 3,493 persons, against 2,915 in December last, and 2,790 in January last. The increase of deaths was due to influenza, as manifested by the numerous deaths caused by diseases of respiratory organs; 437 more than last year at the corresponding time. The distribution of deaths among the two sexes was equal. The report for the first week of March, however, shows that a marked and definite improvement, consequent on the improved weather, has taken place already.

Protection of Sick Children in Hungary

The present condition of the sanitary and charitable institutions for diseased children is far from satisfactory. The comparison with other countries shows how backward Hungary is in this respect. There are only ten children's hospitals, with 850 beds, at the disposal of the physicians, for a population of 20,000,000! There is not a single sanatorium for tuberculous children, while there are forty such institutions in Germany. Only 100 cripples in Hungary against 3,000 in Germany are cared for in special houses, where they learn to work and earn part of their living. Even worse conditions prevail as regards deaf mutes and blind children; although there are more than 6,000 such individuals in the kingdom, only a few hundred are looked after in a regular way. Equally bad are the provisions for idiotic and mentally defective children. Merely four small homes and now and then a class on nursing of such patients represent the entire social care of the state for its defective offspring.

Foot-and-Mouth Disease in Austria

During this last autumn and winter foot-and-mouth disease was prevalent among the cattle in Austria, and a large percentage of the animals had to be killed. Naturally, the quality and quantity of the milk-supply for the capital was severely handicapped by these conditions, and the supply of meat, too, was restricted. The health authorities took in time the necessary precautions to prevent a spread of the infection to human beings. But in spite of all care, sporadic cases appeared, and even yet a case is reported now and then. As a rule, the patients are affected only in a mild degree, while the animals suffer severely. The mode of transmission to the persons could not be ascertained, but it is safe to assume that milk and butter are responsible for it. It may be mentioned, by the way, that the first authentic case of this disease this year was in the wife of a medical man. Adults chiefly were the victims this time, and no fatal case was reported.

Marriages

James H. Goad, M.D., Ellston, Ia., to Miss Rosa Watts of Ross, Ind., March 16.

Glenn Wheeler, M.D., and Anna Marie Regan, M.D., both of Portland, Ore., March 15.

Benjamin Spafford Barnes, M.D., Shenandoah, Ia., to Miss Pansy Mincer of Hamburg, Ia., March 9.

Boyd T. Williams, M.D., to Mrs. Virginia Bradley, both of Hudson, Wis., at St. Paul, Minn., March 11.

Deaths

William Palmer Peirce, M.D. New York University, New York City, 1852; formerly a member of the American Medical Association, and National Association of Railway Surgeons; vice-president of the Illinois State Medical Association in 1875; surgeon of the Eighty-Eighth Illinois Volunteer Infantry, and later chief surgeon of the First Brigade and Second Division, Fourth Army Corps during the Civil War; a member of the Illinois House of Representatives in 1869, and of the State Senate in 1872; mayor of Hoopeston in 1889 and 1890; local surgeon of the Lake Erie and Western Railway, and a member of the local board of pension examining surgeons; died at his home in Hoopeston, February 20, from diabetes, aged 79.

James Milton Peck, M.D. Vanderbilt University, Nashville, Tenn., 1882; of Arlington, Ky.; a member of the American Medical Association; and formerly president of the Carlisle County and Southwestern Kentucky medical societies; and vice-president of the Kentucky State Medical Association; health officer and referee for Carlisle County; died in Riverside Hospital, Paducah, March 14, from abscess of the liver and general sepsis, following an operation for appendicitis, three months before, aged 53.

Edward Fiske Ashley, M.D. Yale University, 1900; a member of the American Medical Association; bacteriologist of the Quarantine Hospital and assistant to the health officer of the port of New York; contracted cerebrospinal meningitis while making autopsies on the infected steerage passengers of the steamers *Patras* and *Martha Washington*, and died from the disease, at Swinburne Hospital, New York Harbor, March 21, aged 34.

Benjamin Anthony Plant, M.D. University of California, San Francisco, 1886; formerly an official of the health department of San Francisco; surgeon of the Pacific Mail Steamship Company for two years; and for a like period resident physician at the state penitentiary, Folsom; division surgeon of the Southern Pacific System; died at his home in Santa Cruz, February 16, from bronchopneumonia, aged 45.

Isaiah Baker Bolton, M.D. Hahnemann Medical College, Philadelphia, 1873; a veteran of the Civil War; formerly chairman of the board of health and city physician of Newburyport, Mass.; died at his home in Los Angeles, Cal., January 11, from septicemia, due to pyothorax, following a pleurisy with effusion nine years before, aged 66.

William Witry Jungels, M.D. Dearborn Medical College, Chicago, 1905; formerly a member of the American Medical Association; and an ambulance surgeon of Chicago; who moved to Dubuque, Ia., six months ago; died in an ambulance in that city, while being taken to Mercy Hospital, March 13, from nephritis, aged 33.

Charles Avery Hart, M.D. Western Pennsylvania Medical College, Pittsburg, 1899; a member of the Butler County (Pa.) Medical Society; died suddenly in Butler, March 14, from heart disease, aged 33. Butler County Medical Society, at its meeting, March 14, adopted resolutions of sympathy and regret.

Thomas Kerr McKee, M.D. Medico-Chirurgical College of Philadelphia, 1895; of Grove City, Pa.; a member of the Medical Society of the State of Pennsylvania; for two years a practitioner of Tulsa, I. T.; died in the West Penn Hospital, Pittsburg, Pa., February 5, from acute nephritis, aged 52.

Henry A. Rodebaugh, M.D. Starling Medical College, Columbus, O., 1875; of Columbus; a member of the American Medical Association; and formerly medical director of sanatoria at Marysville and Columbus; died in the Lawrence Hospital in that city, March 17, from disease of the kideny, aged 55.

Raymond W. Brown, M.D. University of Pennsylvania, Philadelphia, 1909; intern in the Hudson Street Hospital, New York City; died, March 24, from cerebrospinal meningitis, contracted, it is believed, while combating the disease recently brought to New York City on a Greek steamer, aged 25.

Robert David Craighead, M.D. Indiana Medical College, Indianapolis, 1871; for fourteen years house physician at Dr. Strong's Sanitarium, Saratoga Springs, N. Y.; and afterward one of the proprietors of Craig Hall, Atlantic City, N. J.; died in that city, March 11, from pneumonia, aged 63.

John B. Richmond, M.D. Jefferson Medical College, 1852; surgeon of the Twenty-Seventh New Jersey Volunteer Infantry during the Civil War; and afterward president of the Hibernian Fire Insurance Company; died at his home in Newark, N. J., March 12, from heart disease aged 81.

Charles Howard Bradley, M.D. Harvard Medical School, 1882; a member of the American Medical Association; formerly president of the Las Vegas (N. Mex.) Medical Society; for fifteen years a resident of Las Vegas; died at his home, March 3, from pneumonia, aged 52.

Nathan A. Foster (license, Missouri, 1883); for more than fifty years a practitioner of Ralls county; who was tendered a banquet by the Ralls County Medical Society, of which he was the oldest member, a few months ago; died at his home in Center, March 10, aged 84.

Charles Salter Wheeler, M.D. University of Vermont, Burlington, 1879; a member of the American Medical Association, and for several years a member of the state pension board; died at his home in Flushing, Mich., March 10, from cirrhosis of the liver, aged 54.

Raymund H. Phillimore, M.D. McGill University, Montreal, 1893; a district physician of Montreal; medical inspector of schools; and surgeon-lieutenant-colonel Seventh Hussars Canadian Militia; died recently in Montreal, from cancer of the throat, aged 53.

Peter J. Roebuck, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the American Medical Association; for two years state senator; president of the Farmers National Bank of Lititz, Pa., died at his home, March 9, from pneumonia, aged 73.

Charles Wheeler McConnell, M.D. University of Pennsylvania, Philadelphia, 1897; a member of the American Medical Association, and pathologist to Altoona Hospital; died at his home in that city, March 12, from cirrhosis of the liver, aged 40.

James Milton Foster, M.D. Berkshire Medical College, Pittsfield, Mass, 1852; for nearly half a century a practitioner of Wilbraham, Mass.; a member of the school committee for several years; died at his home, March 17, from heart disease, aged 82.

J. W. Bennett, M.D. Hospital Medical College, Eclectic, Atlanta, 1910; of Augusta, Ga., was thrown from his buggy, March 13, in a runaway accident, at North Augusta, and died a few minutes later in the Margaret Wright Hospital, Augusta, aged 46.

Frederick Clinton Taylor, M.D. Cleveland College of Physicians and Surgeons, 1891; of Cleveland; a member of the American Medical Association, and a member of the staff of the Lutheran Hospital; died in Biloxi, Miss., March 9, aged 41.

Thomas Jefferson Kelley, M.D. Medical College of Georgia, Augusta, 1881; Bellevue Hospital Medical College, 1884; of Tennille, Ga., in a quarrel over the disciplining of his son, by a school teacher, March 10, was shot and instantly killed, aged 50.

Joshua Way, M.D. George Washington University, Washington, D. C., 1859; for many years a practitioner in Monroe and Bellevue Counties, O.; died at the home of this daughter in Woodsfield, March 9, from carcinoma of the liver, aged 73.

John Bryan Ward Nowlin, M.D. Jefferson Medical College, 1857; surgeon in the Confederate army during the Civil War; for forty years a practitioner of Nashville, Tenn.; died at his home in that city, March 3, from influenza, aged 74.

Alexander Fekete, M.D. Washington University, St. Louis, 1854; assistant surgeon and surgeon of the Fifth Missouri Cavalry *during* the Civil War; postmaster of East St. Louis, in 1889; died at his home, February 28, aged 83.

John Henry Hieber, M.D. Cincinnati College of Medicine and Surgery, 1871; a hospital steward of volunteers during the Civil War; died at his home in Pittsburg, Pa., March 11, from enlargement of the liver and *spleen*, aged 67.

Cortland Butler Rockwell, M.D. Chicago Homeopathic Medical College, 1883; of Chicago; who served in the Navy during the Civil War; died in a sanitarium in Kenosha, Wis., March 16, from valvular heart disease, aged 69.

John Henry Sackrider, University of Buffalo, N. Y., 1878; a member of the Medical Society of the State of New York, and health officer of East Randolph; died at his home in that place, March 12, from neuritis, aged 63.

Maurice Munker, M.D. College of Physicians and Surgeons, New York City, 1907; of New York City, died at the home of his parents in Steubenville, O., March 4, from septicemia due to an operation wound, aged 27.

Jones B. Hargrove, M.D. University of Alabama, Mobile, 1885; of Natchitoches; while en route to a sanitarium in Shreveport, died on a Louisville and Arkansas train, March 10, from malarial fever, aged 46.

Harry Burton Kuhns, M.D. Western Pennsylvania Medical College, Pittsburg, 1890; a member of the Medical Society of the State of Pennsylvania; died at his home in Neale, March 5, from tuberculosis, aged 45.

Hosias Schiemann, M.D. Universities of Kasan and Dorpat, Russia, 1889; of New York City; died in Mount Sinai Hospital, March 10, from myocarditis following a compound fracture of the femur, aged 45.

Stephen A. Ireland, M.D. Starling Medical College, Columbus, O., 1884; a member of the American Medical Association; died at his home in Washington Court House, O., January 25, from pneumonia, aged 62.

Robert Silvester Kelso, M.D. Rush Medical College, 1864; a member of the American Medical Association; a veteran of the Civil War; died at his home in Joplin, Mo., March 12, from influenza, aged 76.

Alexander R. Gray, M.D. Jefferson Medical College, 1855; a surgeon of volunteers during the Civil War; died in his room in the Jenkintown House, Jenkintown, Pa., March 12, from heart disease, aged 78.

Frank A. Van Sickle, M.D. Detroit (Mich.) College of Medicine, 1892; a member of the American Medical Association; died at his home in South Frankfort, Mich., March 10, from septicemia, aged 46.

Laura Cowgill Bates, M.D. Northwestern University Woman's Medical School, Chicago, 1885; formerly of Chicago; died at her home in Pasadena, Cal., March 15, from cerebral hemorrhage, aged 62.

John L. Witt, M.D. St. Louis College of Physicians and Surgeons, 1890; (license, Iowa, 1886); for many years a practitioner of Logan, Ia.; died in a hospital in St. Louis March 3, aged 56.

Columbus V. Massey, M.D. American Medical College, Eclectic, St. Louis, 1878; a member of the American Medical Association; died at his home in Chicago, March 20, from heart disease, aged 62.

Harrison Andrew Lyding, M.D. Rush Medical College, 1910; of Chicago; an intern in Michael Reese Hospital; died in that institution, March 20, from scarlet fever contracted from a patient, aged 23.

Edwin Samuel Howe, M.D. University of Vermont, Burlington, 1880; formerly supervisor of Blackbrook, N. Y.; died at his home in Au Sable Forks, N. Y., March 4, from heart disease, aged 55.

Lee R. Ashley, M.D. University Medical College of Kansas City, Mo., 1897; a member of the Kansas Medical Society; died at his home in Pleasanton, February 8, from typhoid fever, aged 38.

Joel Allen (license, years of practice, Illinois, 1877); surgeon of the Seventy-Seventh Illinois Volunteer Infantry during the Civil War; died at his home in Pontiac, March 9, from influenza, aged 83.

Arthur John Perry Howe, M.D. Long Island College H[illegible] in Brooklyn, 1909; house physician of St. Mary's Hospital, [illegible]ken, died at his home in Brooklyn, March 18, from hear[illegible]ease, aged 27.

John V. Baird, M.D. Eclectic Medical Institute, Cincinnati, 1892; for two terms a member of the Indiana legislature; died at his home in Albany, March 12, from cerebral hemorrhage, aged 60.

Ernest McCue Thrift, M.D. University College of Medicine, Richmond, 1898; a member of the Medical Society of Virginia; died at his home in Madison, March 6, from pneumonia, aged 37.

Joseph L. Brown (license, Washington); a pioneer practitioner of Tumwater where he located in 1879; died at the home of his daughter at Black Lake, Olympia, Oct. 5, 1910, aged 82.

S. Albert Fishblate, M.D. Eclectic Medical College of the City of New York, 1879; of Pittsburg; died at the home of his sister in that city, February 23, from locomotor ataxia, aged 55.

William Thomas Masterson, M.D. Louisville (Ky.) Medical College, 1890; of Birmingham, Ala.; died at the home of his sister in Oakman, Ala., March 17, from cerebral hemorrhage, aged 55.

John W. Nelms, M.D. Southern Medical College, Atlanta, 1889; for twelve years sheriff of Fulton County, Ga.; died suddenly at his home in Atlanta, February 28, from heart disease.

Edwin Franklin Burkert, M.D. Medical College of Ohio, Cincinnati, 1884; of Dayton, O.; died in the Dayton State Hospital, Sept. 21, 1910, from acute confusional insanity, aged 53.

Daniel C. Badgeley (license, years of practice, West Virginia); a practitioner of Simpson for more than a quarter of a century; died at his home, March 5, from cancer, aged 80.

Brewerton Munro Lebby, M.D. Medical College of the State of South Carolina, Charleston, 1860; died at his home in Sumter, S. C., Sept. 4, 1910, from laryngitis, aged 77.

Flinn Browning B. Ilderton, M.D. Medical College of the State of South Carolina, Charleston, 1881; died at his home in Summerville, S. C., Dec. 13, 1910, from pneumonia, aged 56.

Samuel Hamilton Frazer, M.D. Eclectic Medical College of the City of New York, 1879; formerly of Newark, N. J.; died in Saratoga Springs, N. Y., February 24, aged 67.

Samuel Mauffette, M.D. Laval University, Montreal, 1903, of Montreal, died in the Hôtel Dieu, Montreal, in October, 1910, from the effects of gunshot injury, aged 32.

Charles Sedgewick Rounsevel, M.D. Hahnemann Medical College, Philadelphia, 1882; died at his home in Nashua, N. H., Nov. 7, 1910, after a surgical operation, aged 71.

Emily Pardee-Disbrow, M.D. New York Medical College and Hospital for Women, New York City, 1875; died at her home in South Norwalk, Conn., Nov. 30, 1910, aged 67.

David W. Jones, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1870; of Hagerstown, Md.; died at the Bellevue Home, in that city, March 4, aged 84.

Martin H. Cassell, M.D. Jefferson Medical College, 1868; a veteran of the Civil War; died in his apartments in Davenport, Ia., March 18, from heart disease, aged 65.

Millard F. Brown, M.D. Indiana Medical College, Indianapolis, 1873; an early resident of the town of Lenox, Ia.; died at his home in that city, March 2, aged 61.

John Wesley Filkins, M.D. Northwestern University Medical School, Chicago, 1866; of Seattle, Wash.; died in the Pasadena (Cal.) Hospital, March 7, aged 62.

Foster Fish Robinson, M.D. Kentucky School of Medicine, Louisville, 1877; died at his home in St. Louis, January 10, from valvular heart disease, aged 58.

B. Blastus Robison, M.D. Tulane University, New Orleans, 1892; died at his home in Godley, Tex., June 4, 1910, from cancer of the stomach, aged 45.

George Adelbert Walters, M.D. Rush Medical College, 1895; died at his home in Wesley, Ia., March 14, from diabetes complicated by pneumonia, aged 40.

Linn Henry Corey, M.D. University of Vermont, Burlington, 1905; died at his home in Woodstock, Vt., Nov. 27, 1910, from intestinal tuberculosis, aged 32.

Orpha Desiah Baldwin Bruce, M.D. Boston University School of Medicine, 1885; died at her home in Tampa, Fla., Dec. 10, 1910, from anemia, aged 59.

Reuben C. Hoover, M.D. Pennsylvania Medical College, Gettysburg, 1843; died at his home in Osborn, O., March 19, from cancer of the face, aged 89.

George W. Andrews, M.D. Western Reserve University, Cleveland, 1875; died at his home in Ramsey, Ill., March 10, from pneumonia, aged 59.

Maurice John Wiltse, M.D. University of Vermont, Burlington, 1898; died at his home in Burlington, March 2, from locomotor ataxia, aged 46.

John William Barry, M.D. Eclectic Medical Institute, Cincinnati, 1879; died at his home in Springfield, O., Nov. 3, 1910, from nephritis, aged 64.

John O'Ferrall, M.D. Cincinnati College of Medicine and Surgery, 1863; died at his home in Danville, Ill., March 7, from nephritis, aged 74.

Francis Sterling Mudd, M.D. Tulane University, New Orleans, 1883; died at his home in Lafayette, La., Oct. 29, 1910, aged 81.

Frederick W. Dantzler, M.D. South Carolina; died at his home near Holly Hill, June 15, 1910, from cirrhosis of the liver, aged 64.

Joseph T. Miller, M.D. Jefferson Medical College, 1871; died at his home in Hartford, Ky., March 11, from pneumonia, aged 71.

Lonzo F. Brown, M.D. Medical College of Indiana, Indianapolis, 1879; of Alamo; died in Indianapolis in November, 1910, aged 58.

Association News

THE LOS ANGELES SESSION

Mountain and Seaside Hotel Accommodations Available

Dr. H. Bert Ellis, Chairman of the Committee on Arrangements, writes that, in addition to the hotel accommodations already announced for the Los Angeles session, those who may desire to stay either at the seashore or near the mountains will be given special rates at the Hotel Maryland at Pasadena, and the Hotel Virginia at Long Beach.

The Maryland is situated in Pasadena, 9 miles from Los Angeles. It is a first-class, homelike place and special rates have been made which include transportation, both ways, via the electric lines, between Pasadena and Los Angeles. Trains run every ten minutes.

The Hotel Virginia is a fire-proof, first-class, modern hotel, directly on the beach at Long Beach, and is reached from Los Angeles via the Pacific Electric Lines by trains every twenty minutes. The run takes forty minutes.

Members and their families and friends will find either of these cities very delightful places to stay during the meeting, and with the excellent train service no inconvenience will be experienced in reaching the meetings. Accommodations should be arranged for in advance.

THE SCIENTIFIC EXHIBIT

The Outlook for this Important Feature at the Los Angeles Meeting

The remoteness of the meeting place has been in no sense discouraging to the prospect for the Scientific Exhibit, at the coming session of the Association. In this as in other phases of the prospective meeting, the western men are alert to their obligations, having already assured liberal contributions. Dr. Stanley P. Black, Los Angeles, and Dr. William Ophuls, San Francisco, are looking after prospective exhibits from the coast region. The middle west has also promised commendable patronage. Dr. William A. Evans, Chairman of the Section on Preventive Medicine and Public Health, is seeking to do what we have striven at different times to persuade chairmen of sections to undertake, viz.: to coordinate the work of the sections with that of the exhibit. They should supplement each other.

A common fallacy in the minds of those who might exhibit, is the impression that only large collections are desired. The small research exhibit to which the gold medal was awarded last year, was offered at a late hour, with a modest apology and request that it be given a little corner somewhere. Institution and society collections must necessarily occupy the most prominent place in the Scientific Exhibit, but the small individual exhibit is also important. The committee is very anxious to encourage the latter.

Certificates of honor will be given to a few of the exhibits having superior merit. Medals and cash awards will be offered as detailed below.

1. Gold medal for best research exhibit dealing with any problem in the fundamental medical sciences.
2. Gold medal for the best exhibit on the basis of general excellence, from the standpoints of care in preparation, completeness and instructiveness.
3. Cash award of $100 for the best series of not less than six original cartoons dealing with any or all of the following health problems.
   (a) Insects in the causation of disease.
   (b) Beneficent effects of vivisection.
   (c) Pure food, and adulterated or contaminated foods.

The Committee on Scientific Exhibit reserves the right to purchase any of the cartoons offered in competition, at the rate of $10 each.

Those cartoons on which the award is made, become the property of the Scientific Exhibit. Other cartoons will be returned, if so desired, to the artists submitting them.

FRANK B. WYNN, M.D., *Indianapolis*,
Director of the Scientific Exhibit, American Medical Assn.

The Committee on a National Department of Health

President Welch has appointed the following as the Committee on a *National Department of Health:*

Dr. Herman M. Biggs, New York City.
Dr. S. G. Dixon, Harrisburg, Pa.
Dr. W. A. Evans, Chicago.
Dr. J. N. Hurty, Indianapolis.
Dr. J. N. McCormack, Bowling Green, Ky.
Dr. H. P. Walcott, Cambridge, Mass.
Dr. William C. Woodward, Washington, D. C.

Dr. Welch, by action of the House of Delegates, is also a member of the committee.

A preliminary meeting of the committee was held at New York on March 25, and an organization effected by electing Dr. Welch, chairman, and Dr. Woodward, secretary. After the discussion of some preliminary matters, the committee adjourned to meet in the building of the New York City Health Department, at 10:30 a. m., Saturday, April 1.

"The Propaganda for Reform"

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

DR. BERTHA C. DAY

A Mail-Order Medical Faker Specializing on the Diseases of Women

A study of the multitude of mail-order medical fakes makes plain one fact: Few of such concerns are owned by the renegade physicians whose names adorn the stationery of the companies. Most companies of this kind are organized and capitalized by shrewd—and often unscrupulous—business men. These companies are run solely and only for profit; the health or well-being of the victim who seeks their aid is a matter of indifference. It is not the state of the patient's health that concerns these harpies, but the condition of his pocketbook; it is not his sufferings they seek to relieve him of, but his money. The business is a commercial one; pills and tablets bought by the million from pharmaceutical houses; form letters skilfully designed to imitate either hand-writing or typewriting; testimonials; lists of names of "easy marks" purchased from letter brokers; unscrupulous physicians whose incompetency has made them failures in the honorable practice of medicine and who are willing to sell their birthright of professional honor for a miserable mess of pottage—these are the stock in trade of mail-order medical fakers.

In Fort Wayne, Ind., there are two mail-order medical concerns said to be doing a large and profitable business, and to be owned and operated by one William C. Griffin, a dealer in teas, coffees, etc. These are the J. W. Kidd Co., which "treats" anything from consumption to corns and the Dr. Bertha C. Day Co., which makes a "specialty" of "diseases of women." There is another "diseases of women" mail-order fake in the same town run by a Dr. Luella McKinley Derbyshire. It is said that the Derbyshire concern used to be owned by Griffin, but was purchased by Dr. Derbyshire about 1903. From a business standpoint, it seems rather unkind for Griffin to sell out a "female specialist" mail-order business and later start a competitive house. In 1906, Dr. Derbyshire was arraigned in the Federal courts on the charge of sending obscene matter, in the form of consultation blanks, through the mails. Her defense was, according to the papers, that the blanks were the same as those which had been used by Griffin for some years before she purchased the business from him, and that she "understood that a competent lawyer had gone over the blanks and found that there was nothing unmailable in them." Dr. Derbyshire's methods of doing business are practically identical with those of Dr. Day, and her diagnoses are just as fraudulent and worthless. In a later article, we may give some space to the Derbyshire concern and also to the Kidd branch of Griffin's quackery.

DR. BERTHA C. DAY COMPANY

Dr. Bertha C. Day is the stool-pigeon for Wm. M. Griffin in operating a mail-order medical treatment for the "diseases of women." The Bertha C. Day concern advertises in those cheap and nasty magazines that are the sheet-anchor of the advertising medical faker; it also has an occasional advertisement in the less particular newspapers (Fig. 1). Bertha C. Day advertises that she is "a woman—a wife—a mother—a successful physician—a specialist on diseases of women." She puts great stress on her "long and varied experience." In a booklet entitled, "Diseases of Women and The Home Medical Guide" (Fig. 2), which she sends to those who answer the advertisement and which she claims to have written, we read:

> "Her *vast experience* as a physician is only one of the qualifications she possesses . . ."
>
> "Her training and *vast experience* as a physician enables her to do more for suffering women than any woman can who is not a physician . . ."
>
> "During *several years* of active life *as a general practitioner* she acquired a vast amount of valuable experience that very few ever possess . . ." [Italics ours.—Ed.]

These quotations—from a book written in 1909—naturally give the reader the impression that Dr. Bertha C. Day has been in practice for several years. As a matter of fact, Dr. Day graduated from the Detroit Homeopathic College in 1907 and was licensed to practice in 1908! This would indicate that however "varied" her experience may have been, it could scarcely, with truth, be called long. As the "Bertha C. Day Company" was chartered in 1908—the year that Bertha C. Day received her license to practice medicine—her "vast experience" has evidently been confined to treating people she has never seen, by means of tablets bought in million lots and prescribed on diagnoses that are both worthless and fraudulent.

THE METHODS EMPLOYED

An individual, whom we may call Mrs. X, seeing one of Bertha C. Day's advertisements, wrote for particulars about the methods of "treatment." By return mail she received a form letter in which the date and her name were filled in by means of a typewriter. The letter stated among other things:

> "Before preparing the treatment for you, however, it will be necessary for me to have a more thorough understanding of your case. I am, therefore, inclosing herewith a Symptom Blank, which I will be pleased to have you fill out and return to me."

The "Symptom Blank" consisted of a number of questions to be answered. There was also a list of diseases and symptoms, and the patient was instructed to "draw a line under any of the following diseases or symptoms you have." Accordingly, Mrs. X underscored the following:

"LEUCORRHEA"
"CONSTIPATION"
"PAINFUL PERIODS"
"FEMALE TROUBLE"

On sending this in to Dr. Day, form letter No. 2 came back containing among many other things, the statement:

> "A careful diagnosis of your case shows you have *Vaginitis, Constipation, Painful Menstruation* and *Female Weakness.*"

The words we have put in italics had been filled in by means of a typewriter, having the same style and size of type and the same color ink as that used in printing the rest of the letter. How much skill and "vast experience" was necessary to make such a diagnosis from the symptom blank? The facts are, the "careful diagnosis" showed that Mrs. X was suffering from the very complaints that she had told Dr. Day she was suffering from. In other words, Mrs. X diagnosed her own case. In the same form letter Mrs. X was told:

> "I have mailed you a copy of my book, 'Diseases of Women and Home Medical Guide.' Be sure to read the description of your condition on Pages *86, 32, 58, 27 and 25-47.*"

THE FREE AND SPECIAL TREATMENTS

Here again, the figures we are italicizing were the only part of the paragraph that had been typewritten; the rest was printed. The same mail that brought this letter also brought a "free trial treatment," supposed to last three days and also a "special treatment" for which she had not asked. Mrs. X was told:

"Your case seems to be of long standing and you really should have the complete Course of Treatment at once, if you are to be completely cured. As I want to do everything possible for you, I have prepared a 'Special' course of treatment for you and am sending it, postage paid, in the same package with the free remedies."

The free treatment consisted of:

Six purple, triangular, coated tablets marked "C."
Three red, triangular, coated tablets marked "D."
Three pink, circular, coated tablets marked "45."
Two large, white, oval, uncoated tablets for vaginal use marked "31."
One large, soft, cylindrical, vaginal suppository marked "30."

The "special treatment" received by Mrs. X consisted of six different kinds of tablets each labeled with a letter or number, prefixed with the words "Dr. Day's Private Formula:"

"No. A:" fifteen red, triangular, coated tablets.
"No. B:" fifteen lavender-colored, triangular, coated tablets.
"No. 45:" fifteen pink, circular, coated tablets.
"No. 58:" fifteen brown, circular, uncoated tablets.
"No. 14:" thirty-two, lavender-colored, circular, coated tablets.
"No. 31:" fifteen large, white, oval, uncoated tablets for vaginal use.

The probable composition of these variegated and multi-shaped tablets was determined in the following manner: In *addition to her usual advertisements*, Dr. Bertha C. Day also advertises that she will send "free prescriptions" to those who will fill out and send her the blanks that accompany such advertisements. One such blank was filled out and sent in by another person giving the same symptoms as those Mrs. X was supposed to be suffering from. *In reply*, there were received a letter and five printed prescriptions (see also Fig. 3); each of these was numbered or lettered the same as the tablets sent to Mrs. X, except that there was no prescription for "No. 31"—the tablets for vaginal use. Incidentally, at the same time that the "*free prescription*" was received the express company brought a package of tablets *from Dr. Day, C.O.D., $2.50*. But of this more later. According to these prescriptions, the tablets "A," "B," "45," "58" and "14" have the following composition:

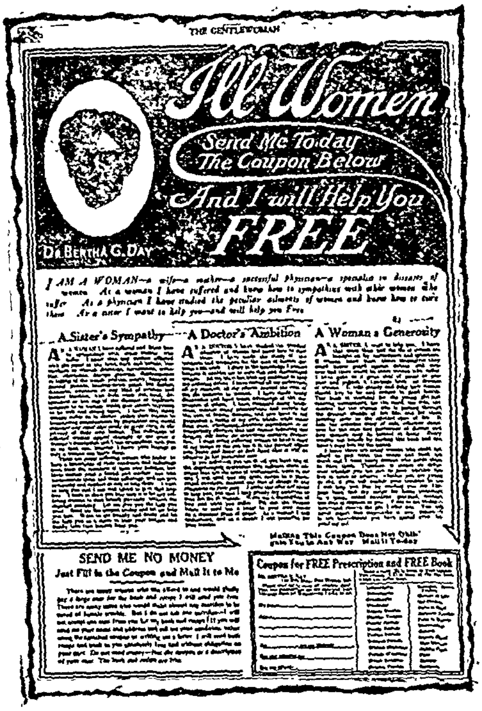

THE GENTLEWOMAN
Ill Women
Send Me Today The Coupon Below
And I will Help You FREE
DR. BERTHA C. DAY
I AM A WOMAN
A Sister's Sympathy
A Doctor's Ambition
A Woman's Generosity
SEND ME NO MONEY
Just Fill in the Coupon and Mail It to Me
Mailing This Coupon Does Not Obligate You in Any Way. Mail It To-day
Coupon for FREE Prescription and FREE Book

Fig. 1.—Photographic reproduction (much reduced) of a typical advertisement of Dr. Bertha C. Day. Note the coupon in the lower right-hand corner by means of which Dr. Day pretends to be able to diagnose a woman's ailments. The size of the original advertisement, which appeared in *The Gentlewoman*, was about 10 by 14 inches.

"A"

℞.

Ext. Gentian	7½	grains.
Strychnin Sulphate	¼	grain.
Ext. Quassia	7½	grains.
Bicarb. Soda	45	grains.

"B"

℞.

Strychnin Sulphate	¼	grain.
Ext. Rhubarb	15	grains.
Ext. Cascara Sagrada	15	grains.
Bicarb. Soda	30	grains.

"45"

℞.

Cascarin	4	grains.
Aloin	4	grains.
Podophyllin	2½	grains.
Ext. Belladonna Leaves	2	grains.
Strychnin Sulphate	¼	grain.
Oleoresin of Ginger	2	grains.

"58"

℞.

Strychnin Sulphate	1/6	grain.
Powdered Ipecac	1/2	grain.
Oleoresin of capsicum	1/12	grain.

"14"

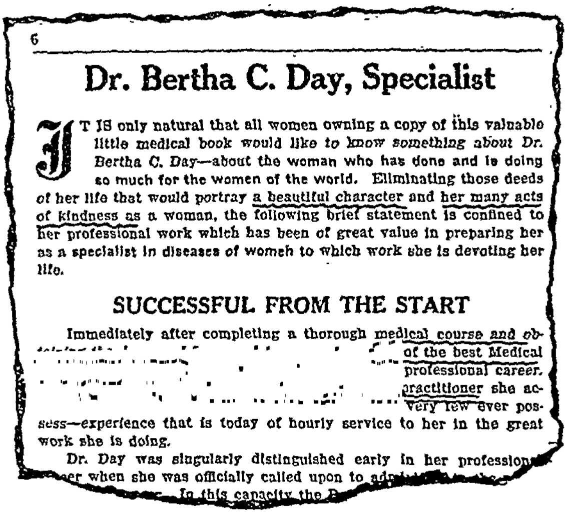
℞.

Ext. Black Haw	30	grains.
Ext. Jamaica Dogwood	15	grains.
Powdered Ginger	½	grain.
Fluidextract of Pulsatilla	30	m.
Fluidextract Gelsemium	3½	m.

As has been said there was no prescription for "No. 31," but printed on the box that contained these vaginal tablets was the statement:

"Each contains 3 grains of acetanilid and ½ grain (¼ gr.?) powdered opium."

As this information was put on the box, apparently as an afterthought, by means of a rubber stamp, the lettering was so illegible that it was impossible to say whether the tablets were stated to contain ¼ or ½ grain *of opium*.



6

Dr. Bertha C. Day, Specialist

IT IS only natural that all women owning a copy of this valuable little medical book *would like to know something about Dr. Bertha C. Day*—about the woman who has done and is doing so much for the women of the world. Eliminating those deeds of her life that would portray a beautiful character and her many acts of kindness as a woman, the following brief statement is confined to her professional work which has been of great value in preparing her as a specialist in diseases of women to which work she is devoting her life.

SUCCESSFUL FROM THE START

Immediately after completing a thorough medical course and ob- [illegible] of the best Medical [illegible] professional career. [illegible] practitioner she ac- [illegible] very few ever possess—experience that is today of hourly service to her in the great work she is doing.

Dr. Day was singularly distinguished early in her profession[illegible] [illegible]er when she was officially called upon to ad[illegible] [illegible] In this capacity the [illegible]

Fig. 2.—Photographic reproduction (reduced) of part of a page from the booklet, "Diseases of Women," "*written and published* by Dr. Bertha C. Day." Note the modesty of Dr. Day's self-delineation: "beautiful character," "acts of kindness," etc. Note, also, reference to "one of the best medical colleges in America." In the Carnegie report on *medical education* the following statement is made regarding this college: "*Laboratory Facilities:* These are wretched . . . The teaching rooms are bare except for the chairs and tables; the building is poorly kept." The same college is also grouped by *the Council on Medical Education* of the American Medical Association in "Class C," *that is*, "*Medical colleges* which would require a complete reorganization to make them acceptable." Note, too, the reference to the "several years of active life as a general practitioner." These words were written in 1909; Dr. Day became legally entitled to practice medicine in October, 1908! Years of experience, indeed!

With the letter, notifying Mrs. X that the "special" and "free treatment" were being sent, was a page of directions for taking the medicines. The directions were printed in imitation typewriting and the "private formula" letters "A," "B," "C," "D," etc., have been filled in by means of a typewriter. The designation "No. 45," was printed instead of typewritten so that it is probable that whatever ails the patient, "Dr. Day's Private Formula No. 45" is always sent.

THE SLIDING SCALE OF PRICES

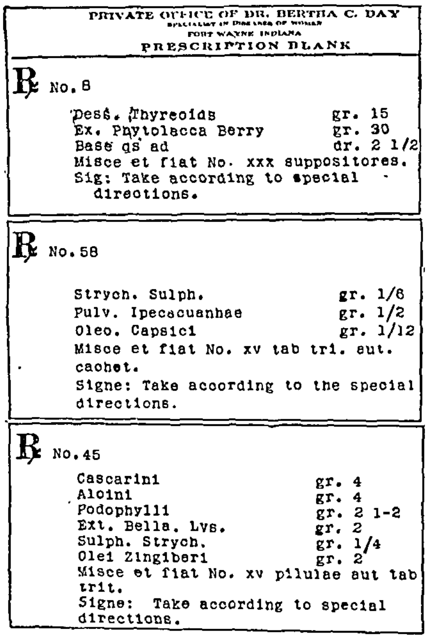
The price Mrs. X was asked for the "special treatment," was $2.00 and, as she did not send the money, Dr. Day, consistently following the methods of mail-order fakers, sent a series of follow-up letters. The general object of these letters is, apparently, gradually to lessen the amount asked for the "special treatment." It was evident, however, from some of the letters sent to Mrs. X that the mailing clerks who send out these heart-to-heart "personal" talks from Dr. Day, are careless in selecting the right form-letter. In Mrs. X's case the first price asked, as has been already stated, was $2.00. In Dr. Day's third letter she says:

> "As I made you a reduced price of $3.00, I hope you can remit the amount soon."

Evidently the mailing force at Dr. Day's establishment got this $2.00 patient confused with a $3.00 patient. Form letter No. 4 is one of those frankly, confidential epistles that the mail-order fraternity get printed by the hundred-thousand and sign with a rubber stamp. The amount of the bill is not mentioned in this letter, it is merely an earnest request to send the money. The next form letter, No. 5, commences:

> "I am busy with my patients this morning, but I feel I must take time to write you a note . . ."

Then follows the usual farrago of sentimental nonsense about being " a woman and a mother," and having a "sympathetic feeling" for the patient and Dr. Day once more urges Mrs. X to send the money.



PRIVATE OFFICE OF DR. BERTHA C. DAY
SPECIALIST IN DISEASES OF WOMEN
FORT WAYNE INDIANA
PRESCRIPTION BLANK

℞ No. 8

Dess. Thyreoids	gr. 15
Ex. Phytolacca Berry	gr. 30
Base qs ad	dr. 2 1/2

Misce et fiat No. xxx suppositores.
Sig: Take according to special directions.

℞ No. 58

Strych. Sulph.	gr. 1/6
Pulv. Ipecacuanhae	gr. 1/2
Oleo. Capsici	gr. 1/12

Misce et fiat No. xv tab tri. aut. cachet.
Signe: Take according to the special directions.

℞ No. 45

Cascarini	gr. 4
Aloini	gr. 4
Podophylli	gr. 2 1-2
Ext. Bella. Lvs.	gr. 2
Sulph. Strych.	gr. 1/4
Olei Zingiberi	gr. 2

Misce et fiat No. xv pilulae aut tab trit.
Signe: Take according to special directions.

Fig. 3.—Photographic reproduction (reduced) of three prescriptions printed in imitation typewriting and sent by Dr. Bertha C. Day to a person supposed to be suffering from obesity. Notice that prescription No. 8 directs that the drugs be compounded *in the form of a suppository*, yet the directions sent by Dr. Day state that they must be "prepared *in tablet form*," one tablet to be taken before breakfast and one after dinner!

> "Something must be done at once—we must come to an understanding. Your health is being neglected . . ."

Thus commences form letter No. 6, and something *is* done: Dr. Bertha comes down to $1.00.

> "Send me a $1.00 bill and the special fifteen-day treatment is yours."

This $1.00, the patient is told, "will pay in full for the $3.00 course . . . "—which was originally offered in the first letter for $2.00. As a slight reward for giving the "cut rate" for her tablets of many colors Dr. Day asks that the patient will send in a number of names and addresses of "others who need treatment." Presumably, this is a cheaper way of getting a mailing list, than by purchasing the names of a letter broker.

According to the opening sentence in form-letter No. 7:

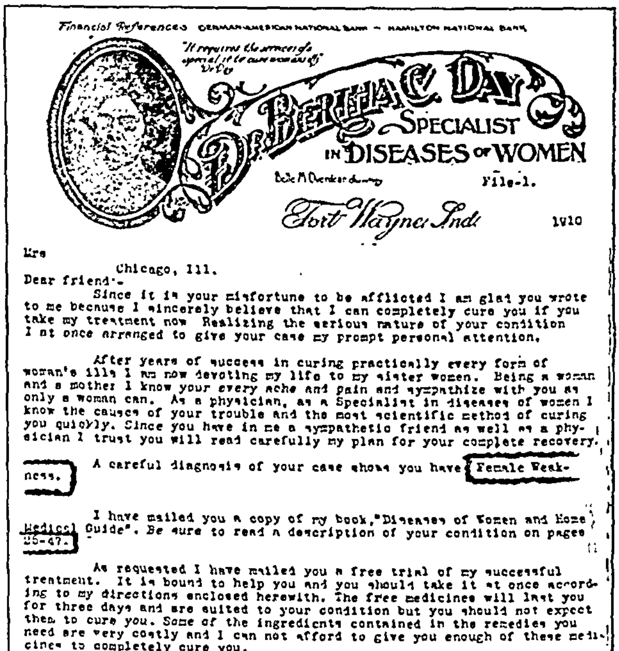
> "This is the MOST IMPORTANT letter I have ever written to you . . . NOW LISTEN: if you can't see your way clear to accept the Special Treatment on the low terms I quoted you, simply send $1.50 and start using the remedies."

From this series of follow-up letters, which is but one of several series of a similar nature that we have on file, it will be seen that the price for this special treatment starts at $2.00, rises to $3.00, falls to $1.00 and closes at $1.50. To those who are familiar with the "ways that are dark and tricks that are vain" of mail-order medical concerns, this fluctuation in the market price of the "special treatment" merely means that the form-letters have been carelessly mailed. To the unsuspecting females who think that these letters are confidential personal communications to them, and to them alone, the variations in price must be disconcerting.

TWO OTHER DIAGNOSES

The following brief note was sent by another individual, whom we may call Mrs. Y, to Dr. Bertha C. Day:

> "Dear Doctor:—Will you please write and tell me about your cure for female trouble?"



Financial References GERMAN-AMERICAN NATIONAL BANK — HAMILTON NATIONAL BANK

Dr. Bertha C. Day
Specialist in Diseases of Women

File-1.

Fort Wayne Ind. 1910

Mrs

Chicago, Ill.

Dear friend:-

Since it is your misfortune to be afflicted I am glad you wrote to me because I sincerely believe that I can completely cure you if you take my treatment now Realizing the serious nature of your condition I at once arranged to give your case my prompt personal attention.

After years of success in curing practically every form of woman's ills I am now devoting my life to my sister women. Being a woman and a mother I know your every ache and pain and sympathize with you as only a woman can. As a physician, as a Specialist in diseases of women I know the causes of your trouble and the most scientific method of curing you quickly. Since you have in me a sympathetic friend as well as a physician I trust you will read carefully my plan for your complete recovery.

A careful diagnosis of your case shows you have Female Weakness.

I have mailed you a copy of my book,"Diseases of Women and Home Medical Guide". Be sure to read a description of your condition on pages 25-47.

As requested I have mailed you a free trial of my successful treatment. It is bound to help you and you should take it at once according to my directions enclosed herewith. The free medicines will last you for three days and are suited to your condition but you should not expect them to cure you. Some of the ingredients contained in the remedies you need are very costly and I can not afford to give you enough of these medicines to completely cure you.

Your case seems to be of long standing and you really should have a Complete Course of Treatment at once if you are to be completely cured. As I want to do everything possible for you I have prepared a Special Course of treatment for you and am sending it postage paid, in the same package with the free remedies.

Please understand that the free remedies are yours to take at once without charge or obligation, but if you use the Special Treatment I shall expect you to send me $3 for it. You need not feel under obligation to me to accept the Special Course but I know it is just what you need and need NOW, so I feel sure your good judgment will cause you to accept it at your earliest convenience. By sending now I save you some time and

Fig. 4.—Photographic reproduction (reduced) of one page of a two-page letter sent by Dr. Day in answer to a brief note, asking for particulars about her "cure for female trouble." Practically all of this letter was printed; the name and address and "diagnosis" only, being filled in by means of a typewriter. The words and figures in paragraphs three and four, around which heavy lines have been drawn, were the words that were filled in on the typewriter.

This is all that was written, yet the information was sufficient for the diagnostic powers of Dr. Day, who wrote back:

> "A careful diagnosis of your case shows you have *Female Weakness*." (See Fig. 4.)

Here again the words we have italicized were filled in by means of a typewriter; the rest of the letter was printed in imitation typewriting. The regulation "free treatment" was also sent to Mrs. Y, together with a "special treatment." The price asked for the "special treatment" in this case was $3.00. It seems, then, that when Dr. Day puts up a "special treatment" for "female weakness, vaginitis, constipation and painful menstruation" she can do it for $2.00; when, however, she makes a "special treatment" for "female weakness" alone, it costs $3.00. The principle on which this business is run, apparently, is that the less you have the matter with you, the more it costs to cure you.

The series of follow-up letters sent to Mrs. Y also shows as much lack of care in picking out the correct form-letter as did the series sent to Mrs. X. As Mrs. Y did not send the $3.00 asked for, form letter No. 2 came in due time, stating:

> "As I made you a reduced price of $2.00, I hope you can remit the amount soon."

Here, apparently, is the form-letter that should have been sent to Mrs. X, who really was offered the treatment in the first letter for $2.00.

A DIAGNOSIS OF RHEUMATISM

Still another letter was written as follows:

> "Dear Doctor:—Will you please write and tell me if you can do anything for rheumatism?"

By return mail came the stock diagnosis letter with the statement:

> "A careful diagnosis of your case shows you have *rheumatism, and associated conditions.*"

A subsequent mail brought the inevitable "free treatment" and the accompanying "special treatment." Here again the carelessness of the detail work done in the Bertha C. Day office was apparent. In addition to the box of variegated pills that composed the "special treatment," there was sent a collapsible metal tube filled with an ointment smelling strongly of phenol (carbolic acid). This was marked "Dr. Day's Private Formula No. 26." The sheet of directions made no reference to Formula No. 26, but it did contain a statement regarding a "Formula No. 48." No preparation having the latter number was sent. The directions pasted on the tube of ointment read:

> "Unscrew cap of tube, then screw nozzle in its place. Each evening wash the parts with soap and water. Insert nozzle into the rectum, forcing a small portion of the ointment out of the tube by pressing the lower end."

No nozzle accompanied the package and had it done so, it would be a little difficult to see how a person was going to be cured of rheumatism by injecting a carbolic acid ointment into the rectum. The facts were, of course, that the mailing force at Griffin's establishment had confused a "treatment" for "piles" with a "treatment" for "rheumatism." It is interesting to speculate what may have happened to the poor sufferer from piles who received the rheumatism treatment with directions to inject it into the rectum.

ANOTHER DIAGNOSIS AND A MODIFIED METHOD OF TREATMENT

As has already been shown, Mr. Griffin sometimes modifies his method of doing business. An advertisement appears in which Dr. Day offers to send "Priceless Prescriptions for the Cure of Female Diseases Free to Any Woman." Part of the advertisement is a coupon (Fig. 1) containing a list of diseases and symptoms and the patient is asked:

> "Make a cross (X) in front of your trouble. Two crosses (XX) in front of the one from which you suffer most."

One of these coupons was sent in to the company with the word "obesity" marked. By return mail came one of Dr. Day's famous diagnosis letters, stating among other things:

> "A careful diagnosis of your case shows that you have *Obesity and associated conditions.*"

"Obesity and associated conditions" were the four words in the whole letter that were filled in by means of a typewriter; the balance of the letter, with the exception of the name and address of the patient, was printed, in the usual imitation of typewriting. With this letter three prescriptions were sent. These prescriptions, printed in imitation typewriting on prescription blanks headed, "Private Office of Dr. Bertha C. Day," were an atrocious mixture of incorrect Latin and poor English, as may be seen by the photographic reproductions (Fig. 3).

After reading all that accompanied the prescriptions the cloven hoof became evident:

> "There are so many reasons why I am afraid you will not be able to get these prescriptions filled properly and at the right price, that I have decided . . . to supply you with the medicines you need direct from my office . . .
>
> "In order that you may begin treatment at once, to save you the trouble of ordering from me or of trying to have the various prescriptions filled, I have decided to send you the Special Treatment you need by Express, prepaid. I have paid the express charges so that all you have to pay the Express Co. is the reduced price of $2.50 which I am making to you."

Dr. Day then says that the patient is under no obligation to accept the package, but, as a physician, she feels it her duty to send the medicines at once. Furthermore, the $2.50 "also entitles you to my professional advice."

The victim, in this case, did not bite and received the usual series of follow-up letters urging her to take the package from the express company and to remit the money. Finally the patient wrote that she had not taken the packages from the express office because she could get the prescriptions filled at the drug store so much cheaper. Back came a letter, stating that this course was "perfectly satisfactory" to Dr. Day. How very unsatisfactory it was to Mr. Griffin's company is evident from the following paragraph:

> "I wish to warn you against trusting this work to a careless and unprincipled druggist who might substitute drugs similar but inferior to those called for in the prescription."

Further:

> "Be sure that all the medicines to be used internally *are prepared in tablet form.* This is very important." [Italics ours.—Ed.]

Not content with vilifying the druggist and accusing him of substitution and lack of principle, those fakers are bound to make the patient dissatisfied with the druggist's work however honestly done. The main prescription of the three given above calls for desiccated thyroid and phytolacca berry compounded *in the form of a suppository.* Yet these humbugs have the effrontery to insist that the patient be sure that the medicine "be prepared *in tablet form.*"

CONCLUSION

So much for the methods of the Bertha C. Day mail-order medical fake. The dishonesty of the claims, the fraudulence of the methods and the general way in which the business is conducted, are all typical of those concerns which make a business of capitalizing suffering and defrauding the sick. Could that vast army of women whose gullibility permits these frauds to flourish but learn the hollow pretense on which such businesses are founded, the mail-order medical fake would cease to exist.

There are doubtless hundreds of thousands of men and women who really believe that the skilfully printed letters sent to them by mail-order quacks are special, personal and private communications. They doubtless believe too, that the "diagnoses" which these fakers furnish have actual value. They probably believe, also, that the pills of many shapes and colors that are sent out by these concerns have some peculiar potency and value not possessed by the drugs prescribed by the family physician. They must believe all these things or the mail-order medical business would not be profitable.

Did the victims of these sharks really know that the letters are printed by the hundreds of thousands and are "filled in" by girls who have no more medical knowledge than the average school-girl would have; did they know that the "diagnoses" are always worthless and sometimes dangerous; did they know that the medicines furnished are often the cheapest of cheap drugs bought in enormous quantities from the least reputable of drug houses; did they know, too, that after they had been bled to the point where they are unwilling to part with any more money, their letters would be sold to other vampires in the same business—did they know all these things, the firms that pretend to cure diseases about which they know nothing, with drugs about which they know less, in patients they have never seen, would soon be forced into some more respectable, if less profitable, line of business.

An Unscientific Prescription

To the Editor:—There have recently been published in the department of The Journal devoted to the "Propaganda for Reform," some excellent examples of shot-gun prescriptions, accompanied by terse and appropriate criticisms.

Below, I offer an exact copy of a prescription which a patient was given by a physician practicing at a mountain resort where she visited last summer. She affirmed that it did her much good, showed it to me for its educational value, would not part with it for anything, but permitted me to take a copy. I might add that her complaint was of a slight indigestion, and that besides these wonderful powders, she was ordered a daily enema consisting of 1 dram of turpentine in 2 quarts of water, and a diet consisting of milk and weak tea to be continued two weeks. She of course credited the powders with being the curative agent.

℞

P. Ex. Nucis Vom	gr. 1/10
P. Ex. Casc. Sag	gr. iii
Salol	gr. i
Pancreatin	gr. ii
Charcoal	gr. v
Pepsini Puri	gr. iv
Sod. Bicarb.	gr. x

D. T. D. Pulv. No. xvi.
Sig. One t.i.d. p.c.

I offer this in the hope that it may serve as a text for some further remarks on "prescription writing."

M. Schulman, New York.

Comment: The above prescription is not one to be recommended because it is an attempt to meet too many indications in the same formula. It is evident that the writer wished to give a tonic, a laxative, an intestinal antiseptic and a digestive agent. In order to meet all possible emergencies, he has introduced two digestives, one active in acid and the other in alkali. Of course, only one of these can be efficient, and as clinical experience shows that pepsin is secreted whenever acid is present, the pepsin in the prescription is superfluous. Furthermore, the prescription is an example of polypharmacy, and is to be criticized on this account, although it is not so bad in this regard. Such a combination would have a tendency to correct hyperchlorhydria, flatulence and constipation, and possibly it was given for such a purpose.

As we have frequently mentioned the desirability of making the language of a prescription correct and consistent, avoiding a hodgepodge of Latin and English, we need only add that the prescription given above has not been edited.

Correspondence

Physicians—The Supply and Demand

To the Editor:—We read now and then of the oversupply of medical practitioners in Great Britain, France, Germany and the United States. Is not this condition due to the congestion of favored localities and not to the demands of the world?

The relation of the medical profession to the movements for the spread of civilization and the development of backward regions of the earth has never been properly realized. There are as yet very few physicians appointed by civilized governments as functionaries, consuls and consular agents, but wherever they have been given official positions they have made good in an exemplary manner.

Countries imperfectly developed would benefit greatly by appointment of men with a medical training as officials in their remote districts. These men would enter fully into the life of the people, carry out sanitary regulations, keep accurate vital statistics, and would furnish reports on climates, soils, ethnology, geology and biology that would be of value to the government employing them and to the whole world.

Men of no other class are so well adapted for this work; their professional services and humane principles would insure the confidence of those placed under their supervision.

China affords an extensive field for physicians, and the great success of medical missionaries there and in India and Turkey shows that the harvest is plentiful even if the proper laborers be few. The United States furnishes a wide scope for medical men, not only in Alaska and the island possessions, but also as consular agents in South and Central America, in the Balkans, Asiatic Turkey, Persia and other unadvanced countries. The great success of Dr. Grenfell in Labrador shows what even one medical man can do, and what no one but a medical man could have accomplished.

William P. Whery, M.D., Fort Wayne, Ind.

What About the Medical Profession in This Country?

To the Editor:—Mr. Pritchett's article in The Journal, February 25, on criticisms of the Flexner report recalls some reflections I made at the time of reading the report. On pages 13 and 14 of the report the question of ratio of physicians to population in Europe and this country is discussed and the conclusions are based on the supposition that the same ratio of physicians to population would be sufficient for this country. Mr. Flexner's reasoning may be logical but I submit that his major premise, to wit, that this country can be served by the same ratio of physicians to population here as in Europe is wide of the mark.

Medical attendance in European countries is a luxury, usually possible only to the better classes, at least until very recently when, for economic reasons, the state has brought it within reach of the workers in large industries to keep the latter going. The barbarous system of midwifery is still in existence among all but the highest strata of society—and the paupers at maternities. Just now, the Russian sanitarians are finding out that puerperal sepsis is as prevalent in midwife practice outside of institutions as before antiseptic days. It is beneath the dignity of a physician of continental Europe to attend an ordinary case of confinement, and it is beyond the ability of the ordinary industrial family to pay for such service.

In this country, conditions are entirely different. Our sense of humanity dictates that, in any case of confinement needing any attention beyond the good offices of the neighbor or relative female friend, the woman should have the assistance of a physician. Every American, or Americanized parturient demands it—it is a humane necessity to our women, a luxury to their European sisters. So far all industrial classes of our population outside of the slum districts and half civilized foreign quarters have been able to get this service and pay for it. And so with ordinary cases of sickness; here the masses send for the physician and are able to pay him, while among the masses in Europe the physician is not called except in extreme emergencies and the patient usually recovers or dies and no more is thought of it; except that it is an act of God.

I am not overstating it when I say that our higher standard of living demands at least twice as large a ratio of physicians to population as does Europe. The public is now demanding and *paying for the services* of twice as large a ratio of physicians. I am now speaking of conditions as I know them to exist in the northwest. There is no overcrowding of physicians in the northwest outside of the large cities; in fact, there are any number of good openings for men who are competent to do general practice and willing to drive out 10 or 15 miles in the country at night, any time of the year, for a reasonable fee. Now, understand, I say competent and willing to do general practice in small towns and rural districts.

I believe Mr. Flexner mentions one Johns Hopkins' graduate who settled in a rural district, and I know of a few others who could write B.A., M.A. and M.D. after their names who, have settled in rural districts, but these are exceptions that prove the rule that the man who has the time and the money to spend ten of the best years of his life to acquire a medical education does not settle in small towns to engage in general practice. The demand now existing for a competent general practitioner cannot be filled from the high-class medical graduate—for obvious reasons, psychologic, social and commercial.

Mr. Flexner has done a valuable service to the medical profession of this country by fearlessly spotting the commercial diploma mills. But his constructive medical education program will not meet the needs of this country. We have, for instance, one good medical school in Minnesota, but the records of admission to practice here show that it is wholly inadequate to the needs of the state. Happily, Chicago is near by and can help us out, and our legislature has opened the door to the osteopath to supply any possible shortage of doctors. Mr. Flexner's Prussian idea of one doctor to every 2,000 population does not work in this country where a popular legislature and not the Kaiser's Kultus-Minister has the say in this matter.

Of late years the medical education theorist—Flexner is the type—has been raising the requirement for medical licensure to correspond with intramural conceptions. On the other hand, the public through the legislatures has been creating osteopaths and the like, to supply themselves with medical service outside of the regular profession; these two processes go on *pari passu*. The higher the professional requirement beyond a certain point—already passed in some states—the wider the doors for irregular "paths" and quackery are opened. It takes no prophet to see that if the medical theorist keeps forcing his hobby we shall soon have several legal medical professions in this country. How would it be if the general practitioner, the one who knows the needs of the people he is serving, were given a hearing on this question?

CHRISTIAN JOHNSON, M.D., Willmar, Minn.

[COMMENT:—Our correspondent apparently misunderstands the argument. Mr. Flexner did not intend to imply that the Prussian ratio was applicable to this country. In the report referred to, at the bottom of page 16 and the top of page 17, it is distinctly stated: "We are not now arguing that a ratio of 1 :1500 is correct . . . Our contention is simply that, starting with our present overcrowded condition, production henceforth at the ratio of one physician to every *increase* of 1,500 in population will prevent a shortage, for the next generation at least." And in order to avoid any possible misunderstanding, the word "increase" in the report is in italics. As to the reluctance of well-trained physicians to locate in small towns, the same is apparently true of graduates of low grade colleges. Regarding such localities, Mr. Flexner says, (p. 15) "A century of reckless overproduction of cheap doctors . . . has not forced doctors into these hopeless spots." Furthermore, Mr. Flexner makes the suggestion on page 16 that, as a last resort, possibly the best way to get good men to go to unpromising locations is for "the several states to salary district physicians in thinly settled or remote regions."—ED.]

The Plague in China

[Dr. Hiram Woods of Baltimore sends the following extract from a letter from a missionary in Paoting-Fu, China, who is supported by the First Presbyterian church of Baltimore.]

Feb. 5, 1911: We are in the midst of a siege of plague, This plague started in Harbin, Manchuria, late in November, or early in December, last year. The Chinese were very slow to take hold of it, and so it got a big start. Then other nations (Russia and Japan) said something must be done or they must interfere to stop its ravages. China, fearing lest these nations should get a greater foothold than they now have, asked for volunteers in our Union Medical College in Peking. Four men came forward to help. The Chinese also used the medical staff and the students in their two medical colleges in Tientsin. A professor from one of these colleges, Dr. Mesny, a Frenchman, went up, took plague and died, as did also one of his students.

The Chinese have been doing what they can to stop it in the original focus and in other places whence it has spread, but up to the present very little progress has been made in checking the epidemic. The medical missionary force has taken a leading part in the work everywhere, and one physician has died in Mukden, Dr. Johnson of the Scotch Presbyterian Mission. He seems to have taken every precaution, wore a respirator and covered himself well. He was a young man, very careful and conscientious, but his work of disinfection and segregation took him into crowded places.

This epidemic is not the bubonic form of plague but the pneumonic. It has been found that the greatest danger is air-borne infection; respirators are very necessary, therefore, when one comes in contact with infected individuals. Rats have been examined and no infection found in them. The government was very slow in stopping the trains, and the disease was carried into China proper, and now it is present at many places in this province and in Shantung. Many workmen from these two provinces work in Manchuria, and when the plague broke out there they left for home. If the government had stopped the train service early, it could have prevented spread of the disease south of the government wall.

An individual only lives about two or three days, at most six, after taking the disease. There has not been a recovery in an authenticated case. A family came from Harbin to their home about 12 miles from here, and after arriving at home almost all the members were taken ill and died; other families were then taken ill. In all thirty-six persons have died in that small village. Two army physicians have gone down there to see what can be done in the way of isolating the families who have had plague and burning the houses and contents.

The officials have asked me to take charge of the sanitation of the city here and we have organized a plague prevention league. We meet every day and discuss measures by which we can prevent the plague from entering the city. Up to the present, we have had no authentic cases. Dr. Dilley of our mission in Peking, has kindly come to my assistance. He has taken charge of the hospital which we have prepared hurriedly for "suspects" and also takes the examinations of trains. We have been examining all passengers on the south-bound trains in order, if possible, not to allow the disease to spread further. We have heard of another place, 35 miles south of this city, where thirty persons have died in four villages. These villages will be examined and restrictive measures put on the migration of people. We are trying to instruct the entire police force here by daily lectures, lasting for an hour, so that if the disease should break out we will have some intelligent men to cope with it, who will know how to take a man to the hospital or a corpse to the cemetery without infecting themselves; and another batch to follow them in disinfecting houses. We are having all inns inspected twice every day so as to discover sick persons early and get them off to the "suspects" camp. We have three native doctors to help us; we ought to have fifty to do the work that should be done here to stop the ravages of plague if it gets into this city.

I have turned over my entire hospital force to the government service in this time of need, and I hope that this work with the officials may give us the opportunity to show them that we are not simply a cranky religious sect, but men who love our fellow men and serve our God, who is worthy of being their God and Savior.

I do not know when we will ever be able to do medical work, that is, to open our hospital here. Of course, if we got plague into it, we would be in a bad way, for it is said that burning is the only safe way to disinfect a building. I am afraid North China is in for a serious time for many years, and that our mission work will suffer much for this. It will be almost impossible to go to the country to work, as one would be constantly running into plague, and if this virulent form persists it means sure death to any one who takes the disease; as I have said, no one recovers. One can hardly dare to imagine the future of poor China for the next few months. The heat may stop the disease in a few months or so, or it may appear in bubonic form, when the flea season comes, and kill half the population; no one can tell. I wish America would show her friendship for this needy land now, and send out fifty sanitary engineers to cope with this awful pest, and thus save millions of lives that are worth saving. Can't you stir up President Taft or some big man to do this?"

CHARLES LEWIS, M.D., Paoting-Fu, China.
Physician in Charge, The Taylor Memorial Hospital.

The Secret Commission Evil

To the Editor:—I have read with great interest the article and editorial on "The Secret Commission Evil," in THE JOURNAL, March 11. I am glad to see the Association take such a position, as here in Kansas, commission-giving is practiced to an appalling extent. I have been offered a commission from the owner of a private hospital on the hospital fees of any patients I might send. A dentist friend of mine tells me he has been approached by a physician with a suggestion that he give a commission on patients that he might send to him, and that this was not an uncommon practice. In Topeka, the ruling commission is 40 per cent, but one man has advanced it to 75 per cent.

In the last session of the legislature, the medical department of the university was interested in some bills which were introduced by a physician. A good friend of the institution told me that I had made a mistake in having a physician introduce any bills, as it always created a suspicion of graft and crookedness, and the members were very slow to accept it on that account.

I hardly know whether we can control this evil in Kansas or not. I have on file a letter, in reference to a statement that I made in regard to this thing, from a general practitioner which reads as follows: "I am surprised at the enclosed clipping. How many of the best surgeons in the state can you name who will not 'split the bill?' I do not know a surgeon in the state who would hog the whole thing."

I am afraid that this represents the feeling of a large percentage of physicians over the state. However, any help that you can give us in combating this evil will be greatly appreciated by at least some of us.

Mervin T. Sudler, M.D., Lawrence, Kans.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

JOURNALS ON SEXUAL PHENOMENA

To the Editor:—Please publish in your Department of Queries and Minor Notes the names of journals published in English or other language devoted to the study of sexual phenomena in any of their scientific aspects.

Joseph H. Toomey, M.D., Chelsea, Mass.

Answer.—So far as we know, the only journals devoted specifically to sexual phenomenon which are still being published are the following:

Die neue Generation, monthly official organ of the Bund für Mutterschutz, edited by Helene Stöcker, Berlin, Germany.

Sexual-Probleme, monthly, published by J. D. Sauerlanders, Frankfort on the Main, Germany.

Several others (chiefly German) have been discontinued. The transactions of several societies interested in the subject are published periodically. The transactions of the third congress of the Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten are published under the title of "Sexualpädagogik."

SANITATION AND CIVILIZATION

To the Editor:—What evidence have we that our sanitary and other measures (in the broadest sense) are of ultimate value as opposed to the fatalistic neglect of such measures among Oriental nations? For example, if we reduce the number of deaths from tuberculosis, or from all infectious diseases, may not other diseases —existing or to be developed—restore a balance in this phase of evolution?

I have in mind a comparison, in a broad way, of the span of life and the mortality (per 100,000) among savage and civilized races through a period of centuries rather than years, as well as the span of life and mortality of civilized races compared with those of former times.

I have in mind also the immunity gradually acquired to diseases such as syphilis and measles (as in South Sea Islands), where such devastation occurred. I am thinking also of the law "a rise in birth-rate entails a rise in death-rate, and *vice versa*," and in a larger way "of life on a basis subsistence," according to Malthus.

H. B. Forbes, Ogden, Utah.

Answer.—A full discussion of the subject proposed by our correspondent would consume more space than would be profitable for The Journal to devote to it. The data as to mortality in uncivilized or partly civilized countries are not sufficiently accurate to afford a safe basis for comparison. Of course, the early infant mortality in uncivilized countries tends to the survival of strong individuals as the weak die out. This is, however, a loss, for many such individuals who are weakly in childhood grow up under favorable circumstances to become vigorous adults of great value to the state. It is amply demonstrated that civilized communities tend to increase in population to a greater extent than savage tribes, and this is largely due to hygienic progress and sanitary laws. The fact that the Indians in this country are dying out shows the operation of insanitary conditions in spite of long habituation which ought to have brought immunity and prolonged life if the theory under discussion were true. See also abstract of Prinzing's paper on this subject in the Berlin Letter, March 4, 1911, p. 682.

ETIQUETTE OF CALLS BY NEWCOMER

To the Editor:—Please give the ethics of calling for doctors locating in new territory. Should the newcomer call first on resident practitioners? Is the old custom reversed?

E. R. Barney, Wattsburg, Pa.

Answer.—Several years ago The Journal answered this question, but because of the time that has elapsed, we repeat: "It is an accepted custom for young physicians and newcomers to call on the older physicians and those of longer residence in the locality. It is a mark of courtesy and respect due from one locating in a new place. He thus announces his arrival and his desire to be recognized in professional circles and friendships." Some correspondence followed this "answer," which made it evident that this custom is sometimes confused with that which governs social relations when a family moves into a new locality.

THYROID IN HEMOPHILIA

To the Editor:—In reply to the communication of Dr. N. C. Miller in The Journal of March 18, I would like to recommend thyroid extract for his cases of hemophilia. In the *Annals of Surgery*, May, 1907, I published an account of a case cured by this drug after I had exhausted all the ordinary methods of treatment. I always give thyroid extract in cases in which I suspect a tendency to bleed or in which any such tendency is shown. Also, in cases of disturbed metabolism when the tissues are indolent thyroid gives good results.

J. Torrance Rugh, Philadelphia.

REMOVAL OF ADHESIVE PLASTER

To the Editor:—A little lard or hydrated wool fat (lanolin) rubbed into adhesive plaster will loosen it in a very few minutes and is much less unpleasant than gasoline or any other substance I have seen recommended in the recent discussion of this subject [Jan. 28, Feb. 25, and March 4, 1911]. Also, it can usually be found in every house.

H. R. Coston, Birmingham, Ala.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 25, 1911.

Love, Joseph W., M.R.C., March 17, ordered to proceed from Fort Preble, Maine, to Fort Banks, Mass., for duty at that post.

Newton, Ralph W., March 17, ordered to proceed, about April 15, 1911, from Fort Revere, Mass., to Fort Andrews, Mass., for duty at that post.

Brooke, John D., and Hull, Alva R., cont. surgeons, March 11, entered into for duty as cont. surgeons, U. S Army.

Eyster, George L., March 20, entered into for duty as cont. surgeon, U. S. Army.

The following named officers of the M. R. C. will proceed to San Diego, Cal., and report in person to the commanding general of the maneuver camp at that place for duty: First Lieutenants Alleyne von Schrader, William T. Cade, Jr., Herbert H. Sharpe, James F. Johnson, Bert R. Huntington, Harry G. Ford, Paul W. Gibson, Francis X. Strong and Robert C. McDonald.

The following named officers of the Medical Reserve Corps will proceed to San Antonio, Texas, and report to the commanding general, the maneuver division, for duty: First Lieutenants George E. Pariseau, Lauren S. Eckels, Lloyd A. Kefauver, John S. Coulter, Thomas J. Flynn, Frederick H. Foucar, Joseph L. Siner, John R. McKnight, Eugene G. Northington, Samuel S. Creighton, Robert H. Cantt, Edward C. Register, William Denton, George C. Divins, Howard Clarke, Clemens W. McMillan, Sanford W. French, Joseph O. Walkup, Horace M. Roberson, Leonard S. Hughes, Charles E. McBrayer, George B. Lake, Fred R. Burnside, Albert P. Clark, Daniel F. Maguire, Raymond W. Mills, Henry C. Maddux, Jay D. Whitham, Leo C. Mudd, Josiah H. Holland, John M. Willis, Josie J. Reddy, James L. Robinson, Henry C. Michie, Jr., Frank N. Chilton, Henry P. Carter, Harley J. Hallett.

Schreimer, E. R., major, March 16, reports arrival at Douglas, Ariz., with headquarters 3d Squadron and Troops I and K, 1st Cavalry.

Wolven, Homer F., D.S., March 12, returned to Vancouver Barracks, Wash., from temporary duty at Boise Barracks, Idaho.

Lynch, Charles, March 20, detailed to take charge first aid department of American National Red Cross.

Brown, Ira C., M.R.C., March 18, ordered from Fort Lawton, Wash., to Fort Douglas, Utah, for temporary duty.

Craft, Edgar D., M.R.C., March 21, relieved from duty at the Army Medical School in this city and ordered to Walter Reed General Hospital, Takoma Park, D. C., for duty.

Hemans, H. W., M.R.C., March 14, ordered to proceed from Fort Wayne to Fort Brady, Mich., for temporary duty.

Griffis, Frank C., M.R.C., March 20, ordered to proceed from Fort D. A. Russell, Wyo., to Fort Robinson, Neb., for temporary duty.

Medical Corps, U. S. Navy

Changes during the week ended March 25, 1911.

Farenholt, A., surgeon, detached from the naval hospital, Puget Sound, Wash., and ordered to the marine recruiting station, San Francisco.

Smith, W. B., P. A. surgeon, detached from the marine recruiting station, San Francisco, and ordered to the Naval Medical School, Washington, D. C., for instruction.

McCormick, A. M. D., medical inspector, commissioned medical inspector from Feb. 8, 1911.

Fiske, C. N., surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Georgia*.

Webb, U. R., surgeon, commissioned surgeon from Jan. 7, 1911.

Oman, C. M., surgeon, commissioned surgeon from Feb. 8, 1911.

Bachman, R. A., surgeon, commissioned surgeon from Feb. 27, 1911.

Sutton, D. G., P. A. surgeon, commissioned passed assistant surgeon from Nov. 29, 1910.

Sheehan, R. F., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Minnesota*.

Eaton, W. E., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *North Dakota*.

Ledbetter, R. E., surgeon, detached from the naval station, Cavite, P. I., and ordered home to await orders.

Peck, A. E., surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the naval station, Cavite, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 22, 1911.

Cofer, L. E., asst. surgeon-general, detailed to deliver a lecture at Cornell University on "National Quarantine Measures," March 21, 1911.

Woodward, R. M., surgeon, directed to proceed to Cleveland, Ohio; Buffalo, N. Y., and Pittsburg, Pa., on special temporary duty, March 7, 1911.

Wertenbaker, C. P., surgeon, directed to proceed to Cape Charles quarantine on special temporary duty, March 17, 1911.

King, W. W., P. A. surgeon, granted three weeks' leave of absence from April 7, 1911.

Chapin, C. W., asst. surgeon, granted twenty-one days' leave of absence from March 1, 1911, on account of sickness.

Hasseltine, H. W., asst. surgeon, directed to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

Leake, J. P., asst. surgeon, directed to proceed to Arundel Cove, South Baltimore, Md., and report to the commanding officer of the Revenue Cutter *Algonquin* for duty.

Stevenson, J. W., A. A. surgeon, .granted nine days' leave of absence from March 23, 1911.

Cumming, Hugh S., P. A. surgeon, commissioned a surgeon (recess), to rank as such from March 15, 1911.

Cofer, L. E., P. A. surgeon, commissioned a surgeon (recess), to rank as such from March 15, 1911.

Boards of medical officers were convened to meet on April 3, 1911, for the physical examination of candidates for appointment as cadet engineer in the Revenue-Cutter Service, as follows:

Baltimore.—Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon Dunlop Moore, recorder.

Detroit.—Surgeon R. M. Woodward, chairman; Passed Assistant Surgeon M. J. White, recorder.

Boston.—Surgeon L. L. Williams, chairman; Passed Assistant Surgeon G. L. Collins, recorder.

New York.—Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Philadelphia.—Surgeon W. C. Stimpson, chairman; Surgeon J. H. Oakley, recorder.

Seattle.—Passed Assistant Surgeon B. J. Lloyd, chairman; Acting Assistant Surgeon F. R. Underwood, recorder.

Milwaukee.—Surgeon J. O. Cobb, chairman; ...., recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

Newspaper Editorials on Medical Subjects

The growing interest of laymen in public health and medical questions is shown by the increasing amount of newspaper space devoted to the discussion of such subjects. We quote from a few recent editorial utterances:

Under the title of "Sectarian Legislation," the Milwaukee *Free Press* discusses, in a strong editorial, the relation of the state to the practice of medicine. Commenting on the protest made by "Christian Scientists" against the bill introduced in the Wisconsin legislature providing for the medical examination of school schildren, the *Free Press* says:

> "The protest . . . foreshadows a difference of opinion certain to become acute whenever sects become numerous enough to have an influential voice in the framing of our laws. Those who would be the last to interfere with another's religious belief will find themselves constrained to protest against regulating society in general in accordance with the Christian Scientists' construction of the laws of hygiene. For suggestions of disease are conveyed not alone by medical examinations, but by every placard marking a house where some contagious disease is quarantined, by every antispitting notice, every sanitary drinking fountain, in short by every one of the precautions through which modern science seeks to safeguard health and check the spread of disease.
>
> "Experience shows that every parasite that infests the human body (and most skin diseases are parasitic) can be conveyed from one to another; that every juvenile disease, mumps, measles, chicken-pox, scarlatina, is highly contagious; that the most deadly infections that poison the human system may be contracted by contact of one with another: and that nothing could be better calculated to communicate any of them than children's games, with the playing and romping natural to all normal children. One of the reasons why a health examination is proposed for all schools is that the healthy may not be infected by the diseased, and that obscure diseases or ailments which have escaped the child's guardians, else he would not be in school, may at once be looked to and relieved.
>
> "The other reason why school children are to be subject to examination has to do with eugenics, the new science that concerns itself with the welfare of society. Observation proves that schooling is thrown away on a sickly, a hungry, or a suffering child. Only normal pupils, well-nourished and in good health, are in condition to assimilate learning; on the others teaching is worse than thrown away. Neglected teeth, abnormal growths in nose and throat, imperfect vision and hearing have been found to have much to do with the backwardness of defective children, although most of these are easily remedied in the young, and when cured the mental deficiency frequently disappears.
>
> "That is why the state is undertaking to make education effectual by attending to the physical condition of the children, and providing in case of poverty free medical, surgical or dental treatment with intent to make them first of all healthy little animals, to the end that bodily discomfort shall not incapacitate them for mental training. This is one of the most enlightened measures ever applied to the public school system, and it would be a thousand pities to let the theories of any sect interfere with it.
>
> "At present Christian Scientists are living in safety because they are a fraction of a law-abiding community. But, supposing them in the majority, the enforcement of their views would mean that there would no longer be such a science of sanitation; we should speedily revert to the era of epidemics; small-pox, cholera, typhoid, which are now avoided in crowded cities only by stringent regulation; tuberculosis, with nothing doing to abate its ravages, would soon regain lost ground, and puerperal infection would again number its thousands of victims. Modern therapy is becoming more and more a question of the prevention and combating of infection; Christian Science denies the existence of infection; on this vital issue the two are flatly opposed. Now is as good a time as any to determine whether medical experts and men eminent in research are to be our guides in matters of health."

The Louisville (Ky.) *Courier Journal*, after commending the Kentucky State Board of Health for enforcing the laws for the protection of public health says:

> "Those laws are none too strict as they are. Indeed, under them many a man is 'practicing medicine' who ought to be practicing blacksmithing and it is only flagrant cases of quackery that can be reached by the law. . . It is not an easy work at any time but when in addition to the opposition of the mountebanks themselves, it must meet the opposition of the ignorant and credulous who are the willing victims of the mountebanks, its task is one of increasing difficulty. It is a prevailing weakness of poor human nature which makes men and women—even intelligent men and women—fall so easily the prey of charlatans in and out of the medical profession. In order to help such people the law must do it in spite of themselves, and even in the profession whose protection, as well as that of its patients, is the object of the board, there are all too many who obstruct it with petty jealousies and unworthy suspicions."

Commenting on the work of the state medical society for the advancement of public health, the Columbia (S. C.) *State* says:

> "Until comparatively recent years the medical practitioners were content to give one patient at a time such relief as lay within their power and retire, but the broader and better point of view of the medical profession now is that the state, which is to say, all the people, is their care. Quietly, without advertising or ostentation, the profession has set itself to diligent endeavors to remove the cause of disease by educating the public to the truth that the conditions in which disease germinates and flourishes ought

not to exist. . . In the building of the Panama Canal, members of the medical profession have been the field leaders. They made progress possible. A great part of the state of South Carolina must be redeemed before it can be properly and profitably used by men and women, and one can think of nothing that would more quickly redound to the prosperity and happiness of the people than the acceptance of the leadership of the doctors in their efforts to bring about this redemption, a leadership which the doctors do not seek.

"The medical profession has never been selfish. It has always been self-sacrificing but its attitude has changed in that it has assumed a responsibility to the public which formerly was confined for the most part to the individual, and the invaluable opportunity of the public is to cooperate through its intelligent laymen, with a medical campaign that would assail the fortified breeding grounds of disease as well as to remove a disease or relieve pain from the particular victim that it has seized.

"This new and splendid demonstration by the medical practitioners as yet is scarcely understood by the laity but it is going on in South Carolina and if the people have regard for their interest, commercial and industrial, as well as physical, they will help the doctors and give them heed in their far-reaching activities to prevent and drive out the illness that flesh is heir to."

The Boston *Advertiser*, commenting editorially on bubonic plague and its ravages in Asia, says:

> " . . . The Massachusetts legislature has a duty to perform in making sure that the power of the State Board of Health shall be adequate and conditions favorable, for full protection of the public health. Possibly the legislature is so busy playing politics, that it cannot afford to waste much time on so trivial a subject. . . The powers of the State Board of Health are badly limited even now, as the result of agitation by commercial interests which . . . more anxious to make big profits than to keep their customers safe from contagion have pushed through former legislatures one bill after another with the idea of preventing the board's interference with the sale of products dangerous to the public health. . . It is about time for the public to take some interest in this matter. . . The public has a right to know and should know the names of the men who are trying to abolish the powers of the one board which stands between the people and the dangers of wide-spread contagion."

Discussing national health legislation, the Erie (Pa.) *Dispatch* says:

> "This country certainly needs a department of health as a regular part of its national administration. This department ought to have as much power and influence as any of the departments of the cabinet. . . One of the first tasks such a department would undertake would be the prevention of the pollution of the waters of the great lakes. The great lakes are nothing but a great open sewer for all of the large cities bordering on them. . . The cities on this lower end of the lake would feel a great deal more satisfied if the matter were officially investigated and the actual truth of the situation determined by an official study of prevailing conditions by a department of the federal government. It is entirely too vital a question to leave to the surmises and hypotheses of local boards."

The Atlanta (Ga.) *Constitution* in a strong editorial on public health says:

> "We are not at present adequately conserving the lives and health of the men, women and children whose sustained vigor is the final safeguard of American institutions. As was shown in the congressional debate last year . . . hundreds of thousands of people die prematurely and needlessly in America every year; millions are half-incapacitated the year round by semi-invalidism . . . Spending enormous sums on the pork-barrel, squandering millions on unjustified additions to the pension system, sinking money in battleships doomed to the junk heap . . . we neglect those factors on which perpetuity of government and prosperity in America depend—the men, women and children. Perhaps, in the course of time, some governmental department will find time to pay as much attention to eradicating disease among human beings as among cattle and hogs."

Discussing the relation of health legislation to industrial and labor problems the Omaha *Bee* says:

> "The American Association of Labor Legislation . . . estimates that more than 13,000,000 cases of sickness occurring annually among industrial workers, represent a national loss of three-quarters of a billion dollars. . . It should not be necessary to reduce the loss to a money basis to obtain an attentive hearing. It should be enough simply to say that human life, without any regard to a money consideration, is being wasted by lax methods of sanitation. . . . One of the sanest and best enterprises ever undertaken in this country is the conservation of human resources. . . The people are willing to waive their claim to a protest against the seeming necessity of first resolving the question into terms of dollars and cents. . . This financial aspect may serve to arouse a lethargic public conscience to the overwhelming need of improving the conditions in which women and children work as a prime factor in their health."

Newspapers frequently criticize physicians as a class and it may have seemed to some that recently the profession was getting rather more than its share of such criticism. There has never been any question, however, as to the appreciation of the physician as an individual, as shown by the recent editorial in the Washington *Herald*:

> "Of all the servants of mankind, the physician is apt to be the most abused. We criticize him and pigeonhole his bills, but at the first twinge we are jangling his bell in alarm. . . The physician is the man who must be ready always. Neither minute-hand nor hour-hand describes a time when he is not on duty. If he gets a whole night's rest, it is because the community happens to be free from aches and pains. He is the slave of telephone, night-bell, door-bell and office-bell.'
>
> "After a hard day's work, another man goes to bed with the sense of having earned his rest; but the probabilities are that the physician will be asked to respond to some one's beck and call. He is altogether a special kind of person. His illusions are few. His inside information is enormous. If now and then he wears a superior smile, forgive him. He has probably just heard some remark which he knows to be hypocritical. Again, his jokes are likely to be a bit technical, and his view of life materialistic. But if he has a brand of idealism, you can put your trust in it, for he has learned it in a hard school. He has faced the worst, and can still believe the best. If he has religion, it will be worth while, for he has wrested it out of the actual battles of good and evil in a life seen at close range.
>
> "The lawyer we take into our confidence occasionally; the clergyman we admit to parlor and dining-room; but the doctor goes into bedrooms unannounced If what he sees there surprises him, he does not let it be known. In the healing of bodies he has opportunities for healing souls which could never come to a priest. He is the lay father confessor, regardless of creed. He always fits in. He is a safe man on committees; he can turn his hand to any public business, and, if left alone, discharges it creditably. He knows more psychology in five minutes than the philosopher in a week, yet he is the least emotional of men.
>
> "When the lawyer is in tears before a jury, and the parson is pathetic from his pulpit, the doctor is keeping his nerve. The peculiar thing about him is that while fighting his grim and silent battle with death, without the applause of a crowd, often without pay, and sometimes without gratitude, he seems superior to all these considerations. He is responding to a higher sort of noblesse oblige which is almost unintelligible to the average man. Somewhere, either in this world or the next, he will reap his deserved reward."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—First Weekly Meeting

General Subject for the Month: Diseases of the Circulatory and Nervous Systems in Children

Diseases of the Circulatory System

Physiology: Changes in circulation at birth. Pulse in infancy and childhood. Weight, size and rate of growth of heart. Physical examination of heart in infancy and childhood.

Congenital Heart Disease

Pathology: Defect in ventricular septum, in auricular septum, pulmonary stenosis, patent ductus arteriosus, abnormal origin of large vessels. Multiple defects. Secondary lesions.

Symptoms: Cyanosis, murmur, enlarged right heart. "Clubbing" of fingers and toes. Blood changes.

Prognosis.

Acute Endocarditis

Primary or secondary. Relation to rheumatism and chorea. Symptoms and diagnosis. Treatment.

Chronic Valvular Disease

Pathology: Changes occurring in valve segments, secondary changes, hypertrophy and dilatation.

Clinical Varieties

Mitral Insufficiency: Frequency, causes. Symptoms. Diagnosis.

Mitral Stenosis: Frequency, associated lesions. Diagnosis.

Aortic Stenosis: Frequency, associated lesions.

Tricuspid Insufficiency: Secondary to other valvular lesions or to pulmonary lesions. Diagnosis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 3-4. Sec., Dr. Ancil Martin.

California: San Francisco, April 4. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg.

Colorado: Denver, April 4. Sec., Dr. S. D. Van Meter, 1723 Tremont Place.

District of Columbia: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

Georgia Eclectic: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

Idaho: Boise, April 4-5. Sec., Dr. O. J. Allen, Bellevue.

Minnesota: State University, Minneapolis, April 4. Sec., Dr. W. S. Fullerton, 215 American National Bank Bldg., St. Paul.

Montana: The Capitol, Helena, April 4. Sec., Dr. William C. Riddell.

New Mexico: Santa Fe, April 9-10. Sec., Dr. J. A. Massie.

Oklahoma: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

Rhode Island: State House, Providence, April 6-7. Sec., Dr. Gardner T. Swarts, State House.

Utah: Salt Lake City, April 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.

West Virginia: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

Higher Entrance Standards

An official announcement received from the School of Medicine of Georgetown University, Washington, D. C., states that after Jan. 1, 1912, in addition to a four-year high-school education, two years of collegiate work will be required for admission; this additional work to include courses in physics, chemistry, biology and a modern language, either French or German.

Besides the forty medical colleges which require one or more years of collegiate work, there are now six others, or a total of forty-six, which by 1912 will have advanced requirements. Not only are medical colleges taking this action, but also the licensing boards in eight states have adopted a like standard as their minimum of preliminary education, and several other states are now endeavoring to secure legislation which will enable them to do likewise. It is safe to say that within the next few years all the better medical colleges, as well as the states which have secured a better control of medical licensure, will have adopted these higher requirements.

This advance will not only bring some relief to the overcrowded medical curriculum, but it will also secure for the medical schools more intelligent students who will be more able to comprehend and to make use of the intricate facts which make up the modern medical course. Certainly no measure in the effort to improve the quality of physicians is of greater importance than this decided advance in the entrance standards to medical schools.

Presented Forged Credentials

A medical student by the name of Lutf Joseph Rashid was recently dismissed from St. Louis University School of Medicine on account of his having presented forged credentials. These credentials consisted of a printed document which made it appear that he had passed successfully in all the subjects of the freshman year at the Northwestern University Medical School, where he attended in 1909-'10. Correspondence between the deans of the two colleges revealed the fact that instead of passing in all subjects at Northwestern, he had failed in three out of four branches at the end of the first semester, in six out of seven branches at the end of the year, and that he had been dismissed by the last-named school on account of poor scholarship. This incident shows that no medical school should accept credentials at their face value without obtaining corroboratory evidence from the college or colleges which the student claims to have attended. Numerous forgeries have been discovered by this method, adopted as a routine by some colleges, which otherwise might not have been detected.

Minnesota January Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written and practical examination held at St. Paul, January 3-6, 1911. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 9, of whom 6 passed and 3 failed. Thirteen reciprocal licenses were granted. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Northwestern University Medical School	(1910)	79.5, 88.5
	(1908)	89.8
Med. and Surg.	(1895)	78.7
	(1909)	76.6
	(1910)	80
FAILED		
Hamline University	(1908)	66.9, 73.9
Marquette University, Milwaukee	(1910)	68.1

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1909)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Keokuk Medical College, Coll. of Phys. and Surg.	(1906)	Iowa
State University of Iowa, College of Medicine	(1906)	Iowa
University of Maryland	(1878)	Maryland
Creighton Medical College	(1910)	Nebraska
University and Bellevue Hosp. Medical College	(1899)	Colorado
Columbus Medical College	(1887)	Ohio
	(1910)	Maryland
Richmond	(1907)	Virginia
ukee	(1910)	Wisconsin
Ontario	(1906)	Iowa
	(1895)	Michigan

Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 5-6, 1911. The number of subjects examined in was 11; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 11, of whom 9 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Yale Medical School	(1910)	91.5
Baltimore Medical College	(1910)	86.9
Johns Hopkins University	(1908)	90.1
University of Maryland	(1910)	80
Harvard University Medical School	(1909)	87.9
Tufts College Medical School	(1909) 81.8, (1910)	89.4
Starling-Ohio Medical College	(1909)	80
McGill University, Montreal, Quebec	(1908)	89.3
FAILED		
Baltimore Medical College	(1909)	71.2
University of Vermont	(1910)	

Book Notices

A HANDBOOK OF PRACTICAL TREATMENT. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia Volume 1. Cloth. Price, $6 net. Pp. 909, with 233 illustrations. Philadelphia: W. B. Saunders Co.,1911.

Renewed interest in therapeutics is indicated by the publication of several recent works dealing with diseases specially from the standpoint of treatment. This interest accounts for the present work, which is to consist of three volumes and to comprise both a discussion of general principles and a detailed application of methods to individual diseases. The first volume, a book of 909 pages, is before us. It presents the views of a large number of writers and exhibits the faults as well as the virtues of the composite book. Most of the articles, however, are excellent, as might be expected from the names of the authors.

The introductory article by Musser gives a brief but excellent discussion of the relation of therapeutics to biologic processes and the defensive actions of the organisms.

The article on serotherapy, by Hektoen, is an excellent one, and presents this important subject in a scientific manner, and at the same time in language easily understood by all. The chapter on "Drug Poisonings and Drug Habits," by Horatio C. Wood, Jr., is comprehensive and practical. "Exercise, Massage and Mechanotherapy," by F. Tait McKenzie, thoroughly covers the field. Special attention is given to apparatus, this part of the article being well illustrated. The method of reeducating the muscles in locomotor ataxia is extensively described. Among "Miscellaneous Therapeutic Measures," by George P. Müller, a description of the hyperemic method of Bier is given, and other technical methods are described.

In an otherwise excellent article on "The General Care and Management of the Sick," by M. Howard Fussell, we read: "Headache, especially of nervous character, may be relieved by acetanilid, administered in 5-grain doses repeated half-hourly for four doses." These doses are large; it would be dangerous to give 20 grains of this drug within two hours to a nervous patient. At least a word of warning should have been incorporated. Some other method of quieting nervous headaches might also have been mentioned. The author gives sage advice, however, in the same section as to the inadvisability of prescribing for cough without careful diagnosis, especially emphasizing the danger of overlooking tuberculosis; and at the same time he warns against hasty diagnosis of this disease on insufficient signs.

The article by Edsall on "The General Principles of Dietetics" is one of the most useful chapters in the book. The subject is thoroughly and scientifically discussed, and yet in such a practical way that its importance and value will be readily appreciated even by the medical student. It is a pity that such reliable and practicable information on this important subject is not more frequently found in text-books. Only praise can be given to the article by Maynard Ladd on "The Dietetics of Infancy."

The article on "Drug Therapy," by Sir Lauder Brunton, is disappointing. While it is an exhaustive discussion of the whole subject of drug therapy, one would imagine, on reading part of it, that one was reading a chapter from a text-book of a quarter of a century ago. The use of "hydrocarbons" as a term for fats, while intelligible to those familiar with the older literature, can only confuse and mislead readers accustomed to present-day chemical nomenclature. Again, the fascinating theory in vogue thirty years ago that acids inhibit acid secretions and vice versa, and that alkalies stimulate the secretions of acids, is reproduced and applied especially to the secretion of the gastric juice, in spite of the fact, long since proved by experiment, that alkalies exert no such influence on the secretory activity of the stomach.

The chapter is also sadly marred by a tendency to the indiscriminate admission of proprietaries. It is rather strange that the editors would allow such nostrums as "Phenalgin" and "Cactina" to be recommended in the book. While a discriminating discussion of the value of proprietaries that are really deserving of recognition should be welcome in a work like this, we can but regret the presentation, in so excellent a book, of such an indiscriminate list as is brought into this chapter by Sir Lauder Brunton. We feel that so far as thi part is concerned, it represents English rather than America views at the present time.

"Organotherapy," by Warren Coleman, presents a comprehensive but conservative view of the present state of knowledg regarding these methods. The rest cure, the work cure an psychotherapy are discussed by Charles W. Burr. Psychotherapy is very briefly considered in view of the extensiv notice that it has recently received. Hypnotism is rather discouraged as the author has seen distinct injury from it improper use. An interesting chapter is that on artificia aerotherapy by Henry Sewall. "Electrotherapy," by J. M Mosher, gives an excellent account of methods and indication An admirable feature of this chapter is the summing up o the present status of electricity in general medical practic in three short paragraphs. Radiotherapy is treated by H. K Pancoast. The author includes a consideration of radiu which, however, he thinks is not likely ever to equal the x-ra in general efficiency. Space does not permit a review of th articles on sunstroke by Tyson, diseases of the blood by Cabo and diseases of the lymphatic system and ductless glands b Dock. The excellency of these articles may be assumed fro the names of their authors. The other articles dealing wit minor subjects which space does not permit us to consider i detail are also excellent.

The first volume indicates that in spite of minor defect the complete work will be one of real value and if the standard set by the majority of the writers who have contribute to this is maintained in the succeeding volumes, the work wi take high rank; it certainly will meet the needs of all classe of physicians.

URINARY SURGERY. A Review. By Frank Kidd, F.R.C.S., Assis ant Surgeon to the London Hospital. Cloth. Price, $2.60. P 429, with Illustrations. New York: Longmans, Green & Co., 191

The opening statement of this book describes it as "a attempt to review for the use of the practitioner the progre of urinary surgery during the last decade." The attempt ha achieved notable success; the text is admirable in conceptio and execution—a terse, clear, complete presentation of etiolog diagnosis and the principles of treatment.

Among the few errors of sufficient moment for correctio are the following: the usual recommendation of suprapub aspiration instead of a single puncture for the insertion of catheter, as the means for the relief of urinary retentio the advice to use cocain for anesthesia of urethra and bla der—a drug usually abandoned as dangerous in the urinar channel; and the usual failure to teach that tuberculos of the urinary and genital tract results from a vice of nutr tion which must be corrected by constitutional treatmen (especially hygiene and tuberculin), to which treatment t knife is always subsidiary. In this book the local tuberc lous focus and its removal by the knife obscures the maj object of treatment—the correction of the constitution defect.

The book is worthy of recommendation to both the gener and the special practitioner.

THE PREVENTION OF SEXUAL DISEASES. By Victor G. Vecki, M.D ex-President San Francisco German Medical Society. With Intr duction by William J. Robinson, M.D. Cloth. Price, $1.50. P 132. New York: The Critic and Guide Co., 1910.

This little book contains a frank exposition of the author ideas of this complex and important subject. As causes the prevalence of venereal diseases, he gives ignorance, pro titution and alcohol. To overcome ignorance, the auth advises education all along the line. The question of alcoh he does not attempt to solve. The question of prostitutio he discusses in a sane and logical manner. He is a fir believer in segregation, as in this way only, he thinks, is possible to accomplish a humane supervision of the prostitut He condemns the reporting of cases of venereal disease an endorses the Detroit plan. What the book lacks in litera style, it makes up in sincerity and enthusiasm

Medicolegal

Information Obtained by Physician Appointed to Make Examination Not Privileged

The Court of Appeals of New York holds in the homicide case of People vs. Austin (93 N. E. R. 57), that information acquired by a physician through examination without intention or expectation of treatment is not privileged. In this case counsel for the defendant applied to the court, just before the trial, on an affidavit setting forth that the defendant was without means with which to procure the services of a physician to examine the defendant as to his sanity, so that his testimony might be used at the trial of the action, and asked that a physician be appointed to examine into the condition of the defendant and attend on the trial and testify, if the defendant so elected, and that the charge for such services of the physician be made against the county. The order was made, and the physician so appointed examined the defendant; but he was not called on behalf of the defendant as a witness at the trial. He was, however, called by the district attorney, after testimony as to the defendant's sanity had been offered, though three or four preliminary questions only were allowed to be answered, anything further being deemed privileged. That the witness should give any testimony was claimed to be error, but the court does not think that the defendant was prejudiced.

The testimony of a physician, the court says, was not excluded at common law. It is not privileged by the present New York statute (section 834 of Code of Civil Procedure), except when his information is "acquired in attending a patient, in a professional capacity," and where such information "was necessary to enable to act in that capacity." This court has frequently held that the burden is on the party seeking to exclude the testimony of a physician under said Section 834 to bring the case within its provisions.

It is clear from the statute itself and from the authorities that if the physician never attended the defendant in a professional capacity and never obtained information from him to enable him to prescribe in such professional capacity, he can testify the same as any other person. In such a case the seal of confidence existing by virtue of the statute between physician and patient and made necessary to obtain the fullest information in no way applies. It did not appear in this case from anything before the court that the physician, by what he said to the defendant, led him to believe that he was there to prescribe for him, or that the defendant by what was said by the physician was led to accept him as a physician and consequently to disclose to him information that perhaps would not otherwise have been given. Where a physician is sent to a jail by the district attorney to make an examination of the prisoner's mental and physical condition, the relation of patient and physician as contemplated by Section 834 does not exist, and the prisoner is not thereby compelled to furnish evidence against himself. There was nothing disclosed in the record in this case to show that the examination which the physician made of the defendant in the presence of his counsel was not competent, or that it was privileged by reason of Section 834.

Counterclaim Wrongly Allowed in Action for Services—No Implied Contract to Cure

The St. Louis Court of Appeals holds a new trial to be necessary in the case of Ruth vs. McPherson (131 S. W. R. 474), where the jury returned a verdict for the plaintiff for $225 for professional services, and for the defendant in the sum of $725 on a counterclaim for damages for malpractice, based on an alleged contract to heal and cure, or a net sum of $500. The court says that the jury by their verdict in favor of the plaintiff on his account must have found that the facts set out by the plaintiff in that account as to the rendition of the services and their value, and that they had been rendered at the instance of the defendant, were correct. To so find the jury must have concluded that the defense which the defendant interposed to that account, namely, unskilfulness in rendering them, was not sustained; that is, the jury by their verdict of $225 on the account in favor of the plaintiff necessarily found against the defendant on all of his averments as against that account. Having so found, then to turn round and find a verdict in favor of the defendant on his counterclaim, which counterclaim, to all intents and purposes, was founded on the identical defenses set up to the account, was utterly irreconcilable with the verdict in favor of the plaintiff on that account. Hence, as being inconsistent with itself on the issues, the verdict, as a whole, could not stand. Moreover, the counterclaim was specifically based on an alleged special contract whereby the plaintiff undertook as a physician and surgeon to attend and to cure and heal the defendant, but there was not an iota of testimony to prove any special contract. It is not within the implied contract of a surgeon employed to operate, or of a physician to attend on a patient, that he will heal and effect a cure. Any such contract must be an express one; it is not implied by the mere employment. To use skill, etc., is all that is implied in the mere employment of a physician or surgeon. Considering the averments of the counterclaim in this case, on which the defendant recovered damages, and in which counterclaim the averment of the contract to heal and cure was distinctly contained, the court holds it to be an averment which could be sustained only by proof of an express contract, a contract outside of the implied contract under which a surgeon is employed.

Latitude Allowed in Hypothetical Questions

The Supreme Court of Indiana says, in Taylor vs. Taylor (93 N. E. R. 9), that a party may put his hypothetical case as he claims it to be proven, or within reasonable inferences from the evidence, and the jury determines whether it is so supported by the evidence as to be of any value, or as to the weight and value they will give it. The opinion may be tested by cross-examination, by omissions and additions to the original question, or by an entirely new state of facts. If facts are assumed in a hypothetical question which are clearly so exaggerated as to impair the opinion, or are such manifest assumptions as to be misleading, confusing, and aside from evidence or fair inferences from the evidence, it should be excluded, and its admission might be prejudicial error in a given or specific case. But the weight and value of the opinion is a question for the jury, and depends for its value on there being evidence, admissions, or facts proved, on which it is based. And even if the question is faulty by the insertion of some facts not supported by the evidence, so that, uncorrected, an error might occur, it is corrected by an instruction to the jury that, if any of the material facts contained in the question are not shown by the evidence to be true, they are not to be taken as true, because embraced in the question, and, if of such character as to destroy the reliability of the opinion based on the hypothesis stated, the jury should attach no weight whatever to the opinion.

Medical Practice Act Not Invalidated by Provision as to Prayer

The Court of Appeal, First District, California, holds, in Ex parte Bohannon (111 Pac. R. 1039), that the medical practice act of that state of 1907 is not rendered unconstitutional by the proviso that nothing therein shall be held to apply or to regulate any kind of treatment by prayer. It was contended that this exemption made the whole act unconstitutional and void, and that it gives to a certain class of persons, to wit, those who treat physical ills by prayer, privileges and immunities, which "under like conditions are not granted to all citizens." But the court does not so construe the section. If prayer can be regarded as practicing medicine and as an immunity, the act, the court says, allows every person, man, woman or child, such immunity and the right to pray for the sick and afflicted, and that is the only way that disease can be treated by prayer. Whether such treatment avails anything or not is not for the court to say; but the privilege of practicing such treatment or such supplication is granted and allowed to all. The proviso or exception was evidently put into the act to prevent any interference with the right of any one to pray for the sick and afflicted.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. *Genito-Urinary Surgeons, New York*, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Tennessee State Medical Association, Nashville, April 11-13.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS

Twenty-First Annual Meeting, held in Chicago, Feb. 28, 1911

The President, Dr. Joseph C. Guernsey, Philadelphia, in the Chair

An address of welcome was delivered by Dr. George W. Webster, Chicago, which was responded to by Dr. Lee H. Smith, Buffalo.

Dr. Guernsey delivered an address on medical licensure.

Officers Elected

The following officers were elected: president, Dr. Charles A. Tuttle, New Haven, Conn.; vice-presidents, Drs. James A. Egan, Springfield, Ill., and A. B. Brown, New Orleans; secretary-treasurer, Dr. George H. Matson, Columbus, Ohio; executive council, Dr. N. R. Coleman, Columbus, Ohio, chairman; Dr. Charles H. Cook, Natick, Mass.; Dr. Joseph C. Guernsey, Philadelphia; Dr. W. Scott Nay, Underhill, Vt.; Dr. James A. Duncan, Toledo, Ohio.

Chicago was selected as the place for holding the next annual meeting.

Flexner Report

Mr. Abraham Flexner, New York City: In my report to the confederation last year I pointed out: (1) The education prerequisites should be defined, and the board authorized to insist on it as an educational preliminary. (2) The enforcement of even the four-year high school standard will so far clean up the medical field that the state boards will at once be relieved of the duty of dealing with actually disreputable schools. (3) The examination for licensure is the lever with which the entire field may be lifted; for the power to examine is the power to destroy. A model state board law must guard the following points: the membership of the board must be drawn from the best elements of the profession, including those engaged in teaching; the board must be armed with the authority and machinery to institute practical examinations, to refuse recognition to unfit schools, and to insist on such preliminary educational standards as the state's own educational system warrants; finally it must be provided, either by appropriation or by greatly increased fees, with funds adequate to perform efficiently the functions for which it was created.

REPORT OF REFERENCE COMMITTEE

The committee to whom was referred the Flexner report, composed of Drs. W. J. Means, N. P. Colwell and Henry Beates, made the following report, which was adopted:

The recommendations made in Mr. Flexner's paper concern subjects which have been frequently presented and discussed at meetings of this confederation, as well as of the Association of American Medical Colleges and of the Council on Medical Education. We recommend, therefore, that most careful consideration be given to all the suggestions made, and that the three special recommendations, regarding preliminary education, the refusal to recognize poorly equipped schools and practical examinations, be adopted.

SYMPOSIUM ON STATE CONTROL OF MEDICAL COLLEGES

Could the State Control and Conduct Medical Colleges More Efficiently than Corporations and Private Individuals?

Dr. C. W. Dabney, President of the University of Cincinnati: Let us state the proposition in the following terms: public control of medical colleges through state, municipal or other public corporations, including corporations which, though not state or municipal in name, still by reason of their breadth and importance, really represent the entire public, should be expected to conduct medical colleges more efficiently than private corporations or private individuals. We should plan for the best organization of the medical college as a part of our system of public education. The duty of the state is being better and better understood, with the result that in the last two years many of the state universities have established colleges of law, of medicine and of dentistry, as well as of engineering, colleges for teachers, etc. The chief argument for public-supported institutions in a democracy is the necessity of making them accessible to all classes of citizens on equal terms. To exclude the poor from the opportunities of the highest education, including professional education, or to educate them only at the bounty of the wealthy, is utterly repugnant to our democratic ideals. It is eminently desirable that the wealthy should give of their surplus to endow and support public institutions. The best location for a medical college is where it will enable it in the most efficient manner to perform three great duties to the public: (1) The education and training of properly qualified youths for the profession of medicine and the service of the people in families, dispensaries and hospitals; (2) the advancement of science through experiment and research; (3) the education of the people in health and principles of preventive medicine and sanitation.

The Duty of the State in the Control of Medical Colleges

Mr. Abraham Flexner, New York City: There should be state control of medical colleges. This control should be indirect in the sense, first, that the state shall determine the date of registration of each medical student by setting a standard of preliminary education and permitting the student to begin to count his time of medical study only after the state has declared his *preliminary education* completed; second, that the state shall require a minimal period of medical study in a properly equipped medical school; third, that the state shall register for *practice only such individuals* as give evidence of having obtained a certain minimal knowledge of medicine as determined by examination and practical tests, etc.

Discussion on State Control of Medical Colleges

Hon. Charles Alling, Jr., Chicago: If the courts will sustain as a requirement for examination a diploma from an institution of the standards upheld by the Association of American Medical Colleges, they should for the same reason sustain a law providing that the degree of M.D. shall be given only by medical colleges in good standing with the State

Board of Medical Registration and Examination, an official body created by and acting for the state to secure good medical service for all the people.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: The practice of medicine is under any and every condition a public service. No man can practice medicine without rendering a public service. Every physician present who attends a case of scarlet fever, diphtheria, or anything of that kind, may do the best he possibly can for his individual patient, yet he is rendering a hundredfold greater service to the state. He is preventing the spread of that disease. The practice of medicine is necessarily a public service, and it has been decided by the Supreme Court of the United States that the regulation of it lies within the hands of the state. The state has a perfect right to put any regulations that it pleases on the practice of medicine. We should impress on the people, and especially on those connected with state universities that are teaching medicine, that the most important function we have to perform is the enlargement of medical knowledge.

Dr. George H. Hoxie, Kansas City, Mo.: The majority of the people do not accept the fundamental principle that they have a right to restrict the practice of medicine, because the higher we get our standards, the more likely are they to permit the followers of the isms and pathies to practice medicine under one guise or another; thus showing conclusively, in my opinion, that they have not accepted that fundamental principle, but have simply been yielding to the pressure brought to bear by physicians. It is only when the people of the state become convinced of these fundamental principles that there is any hope of controlling medical colleges from without or of adequately supporting them.

Dr. James R. Guthrie, Dubuque, Iowa: If it be true that the future of medical education is largely in the line of preventive medicine, public hygiene and sanitation, is it not the highest duty and prerogative of the state to accept that situation and make it obligatory and place the power of the state behind this, the leading and controlling idea in modern scientific education?

Dr. George Blumer, New Haven, Conn.: I think it may be said that even when the appointment of state medical examiners is in the hands of bodies like state medical societies, we cannot entirely rule out the possibilities of political appointment, since politics enters into state medical societies as well as into the executive positions of the state. Another point of interest is the matter of representation of teachers on the state board of medical examiners. I think every teacher of experience has felt very critical at times toward the kind of questions that are put to students by a great many state boards of examiners. Members of the state board of examiners are not always selected with the idea in mind that they are to examine students trained in modern medical schools. For instance, there should be a man on the board of examiners who has been trained by the modern methods in such subjects as pathology and bacteriology, and it seems ridiculous to expect a man who has not received that kind of training to ask intelligent questions on those subjects.

The Advantages to Medical Colleges of State Control

Dr. Arthur Dean Bevan, Chicago: Proper state control would mean a great deal and be of great advantage to the medical colleges which are doing good work and developing along scientific lines. I believe that if every state board represented in the confederation will attempt to get the profession of its own state back of it and make proper state control effective, within five years American medicine could be placed in a position, with the exception of a very few states, where we could say that the American medical student is obtaining the proper medical education; that he has had a proper preliminary and medical education, and some practical hospital experience before he is allowed to practice medicine.

Some Evils in the Present System of Medical Education

Dr. F. C. Waite, Cleveland, Ohio: The evils of overproduction of medical graduates are self-evident. First, the field is overstocked, consequently the average income and adequate living are reduced. Second, from this the result must be that the more able members of following generations will shun the profession and its recruits must come from the mediocre. The general tone of the profession will thereby diminish. Third, the average lack of income from reputable and ethical practice of the profession will lead many into quackery and charlatanry, and thereby yet further reduce the dignity and respectability of the profession, which again will divert the tendencies of able young men from the profession. Medical teaching, even if privately supported, so closely affects the public that it must be considered a public utility, and therefore subject to the control of the commonwealth. The number of schools in a given state can be limited, either arbitrarily or by forcing public opinion to a level where the cost of maintenance of a school will exceed the private advantages accruing. This may be done by a close supervision of entrance requirements, by insistence on adequate laboratory equipment and clinical opportunities; by limiting the student body to the more capable. By examinations the average capability of the students can certainly be controlled. It is very important that practical means be found to eliminate men who do not measure up to the promises indicated by their preliminary training. The lack of this needed elimination of the unfit is one of the weakest points of our present system. The last two years, during which discussion has been free and meetings of representatives of various schools frequent, have shown a tremendous growth of interest on the part of each man and each school in the common cause. The further equalization of interests that would come from more centralized control would yield a further community of interests among the schools. A standardization of equipment and facilities, and the establishment of a minimum of opportunity for each student would secure a product in the graduate that would gain the confidence of both laity and profession. A control of the student's training at the time of admission, rather than an examination of his shortcomings after the evil is done, would be far more just to the student, who is too often innocently a victim of a system which seems to employ every means to mislead him and none to protect him. State control of medical education, like municipal ownership, has the potentiality of great blessings, if properly managed; but too often it is capable of many pitfalls if unwisely construed. To work out and put into operation all the details of such a plan is no light task. To gain the balance between ideals and expediency between the desirable and the possible requires rare judgment and altruistic devotion.

State Aid in Securing More Full-Time Salaried Teachers

Dr. Frank Winders, Columbus, Ohio: That full-time salaried men are indispensable to the proper teaching of the first and second years of the medical curriculum is no longer questioned. This plan is now in practice in every first-class medical school. The true purpose of a medical college is to be found only in teaching the science and art of medicine to the end that its students and graduates may be best equipped to prevent and relieve the ills and accidents of mankind. When other aims and purposes creep into the scheme of medical teaching, such as the personal interests of the teacher, the standard is lowered, the quality of instruction suffers, and the unfortunate student, not the teacher, pays the penalty. The teacher whose chief purpose consists in increasing his clientele by his teaching can certainly not develop the best that is in the student. Adequate compensation in proportion to the time required and to the excellence of the service rendered would do much to correct the evils resulting from the present practice. No modern medical college can be successful in its truest sense, unless it has at its disposal the wards of one or more large hospitals, and an adequate dispensary service. It is in such institutions that the material for successful clinical teaching must be obtained, and at least a part of the teaching staff in general medicine and surgery should be free to devote their entire time to such clinical work and to their duties as teachers. A college which does not have in its hospitals and dispensaries sufficient clinical material, properly utilized, to keep one or more teachers of general medicine and surgery busily occupied for their entire time, should not be permitted to remain in existence. One clinical case properly and exhaustively analyzed and demonstrated will have more real value than many which are presented in an incomplete and hurried manner. If medical schools were aided and controlled by the state, the same excellent conditions would obtain in all schools as are found in our state universities.

State Control of Medical Education and Enforcement of the Medical Practice Act

DR. EDWARD CRANCH, Erie, Pa.: The function of medical examining and licensing boards is judicial: deciding between the claims of the candidate backed by his college on the one hand, and the rights of the people, who need protection from the ignorant and unqualified practitioner, on the other. Licensing boards should also have the power of revoking licenses for cause shown. In the exercise of their function, in Pennsylvania, the examining boards were at first greeted with a defiant attitude by certain colleges whose faculties assured their students that it was of little or no consequence whether they passed the boards or not, the colleges would see that they had the right to practice anyhow—whatever the boards might say or do. This attitude was signally crushed by the results of one year's examinations, in which over 30 per cent. of candidates were rejected. If now, as under state control would be the case, examiners and teachers knew better what was coming, the work of both would be easier, but at the same time, if written examinations alone were to be relied on, chances for cheating would increase in equal measure. When the student knows that his record of study and standing in class will count for or against him, and when he knows that he is to be orally and practically examined, if only in some few departments, such as anatomy, materia medica and diagnosis, it will improve his whole method of study and render it more practical. The method of full control would be suitable for one or two colleges in each state, and then if others wish to organize, as now, they can, under a modified control, be rendered equally efficient, and yet preserve that initiative which will develop new and better methods for the future. In this way examining and licensing boards will find their work supported by the colleges, instead of being antagonized and criticized, as at present. This alone furnishes a good argument for at least a modified state control.

Result of State Control of Medical Colleges on Professional Efficiency

DR. ROYAL S. COPELAND, New York City: When one considers the really ideal condition as regards medical college supervision, naturally he thinks of the superior advantages of federal control, with uniform standards of admission, graduation and licensure. This, however, is impossible at present, and perhaps would be unwise. Of necessity, low standards will prevail in pioneer and undesirable sections of the country, and a federal law, in striking an average for the country at large, would raise a much higher standard than could obtain in many of the individual states. State control, therefore, is the present logical solution of the problem. In the matter of medical colleges, private control undoubtely results in abuses and a lower standard than should be tolerated at the present time. Certainly private control must mean lack of uniformity. In a given state, for instance, with private control, there will be of necessity as many standards of admission and graduation as there are colleges. With state control, while the standards may be no higher than the average of the private institutions in another state, at least there is uniformity in the administration of the colleges. There is uniformity as to the minimum requirements, with perfect liberty of diverse views as to the maximum. State control has all the benefits of federal control, if there are reciprocal relations between the states. This reciprocal relationship, so desirable to our profession, would be much easier to realize were there uniformity in the college curricula, as regards the essentials of medical education. The great argument for state supervision is the protection of the people against charlatans, quacks and poorly educated practitioners. Legislation providing for state supervision should include the conditions under which medical college charters may be issued, and the minimum requirements of preliminary and professional education. State supervision should include the right to revoke, for due cause, the license to practice medicine. The natural corollary of state supervision is reciprocity between the states. To this end there should be uniform laws and requirements. State supervision makes for more uniform and thorough education.

Report of Committee on Materia Medica

DR. MURRAY GALT MOTTER, Washington, D. C., presented the list of medicaments reported last year in alphabetic order. Personally, he sees no advantage from the standpoint of the confederation in a list classified under any system whatsoever. The important thing to know is to what medicaments with their preparations it is desirous that chief attention shall be given, and he suggested that it would be both interesting and profitable to have a complete alphabetic list, including the list submitted by the joint committee last year, the list submitted by the Chicago Medical Society and adopted, and a list from the English examiners recently received by him from Dr. Cushny. A printed (complete) list is needed showing the drugs which are named in all three lists, and then the profession will have a competent list of drugs having wide use both in this country and in Great Britain. The future work of the committee on materia medica should be directed along the lines of securing endorsements of this general proposition. The list itself is not of such vital importance as the general proposition to adopt a restricted list. Then, if the teachers will devote their time and attention to this list, and if every medical examining board should say we will grant say 75 or perhaps 80 per cent. in the subject of materia medica pharmacology for examinations on this restricted list, it would leave the field open. It would not oblige any board to restrict itself absolutely to the list or prevent any teacher from teaching anything he might wish to teach. So it would leave the field open and mark a decided step in the progress for a more sane therapy.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held Feb. 27-28, 1911
(Continued from page 843)

The Medical College Library

DR. C. M. JACKSON, University of Missouri: The medical college library is an important but neglected factor in medical education. It supplements the laboratory and clinic by making available the accumulated knowledge and wisdom of the whole world, both past and present. The library should be carefully selected, quality being more important than quantity. Of the various forms of medical literature, the standard periodicals are by far the most important. Students should be instructed in the use of medical literature. A good library is indispensable in encouraging that research spirit which should be the ideal in medical education. Through his experience in daily practice the practitioner learns something, but through the medical literature he learns to interpret this experience and to profit by the experience of others.

The medical college library should include 4,000 or 5,000 well-selected volumes; especially it should include subscriptions to at least 100 of the leading medical periodicals. It is doubtful whether there are now more than twenty medical schools in the United States which meet this demand. More could easily do so, and doubtless will when the value of the college library in medical education is better understood. Periodicals are far more important than text-books, which are at best only compilations made from periodicals. Good periodicals contain original observations. There should be periodicals more or less general in scope and those devoted to the individual laboratory and clinical subjects. Some of the principal French and German journals should be included, as the better class of medical schools now require a reading knowledge of these languages. Under periodicals should also be included the transactions of the more important medical societies and hospital reports, which contain much of permanent value. Next to periodicals in importance come the various guides to medical literature—the Index-Catalogue of the Surgeon General's Library, the *Index Medicus*, German *Jahresberichte*, and others might be mentioned. Next in importance stand the dictionaries, encyclopedias, systems of medicine and surgery, handbooks and monographs, and, last of all, the text-books.

A trained librarian should be in charge. A faculty library committee should select the books and periodicals to be placed in the library. The funds necessary should be provided for in the annual budget. To maintain a good working library will require an annual appropriation of at least $1,000. Some good can be done with less. The students can be called on for assistance, likewise the faculty, and some donations from outside sources can be secured. The library should be accessible, catalogued and kept in order. Originality and independence of thought should be encouraged by frequent references to various sources in the best medical literature. It is important to make students familiar with the best sources of medical literature, how to find and use them. Instruction on these points should be given in the first year of the course by the librarian or some one competent to do so.

Every student before graduation should be required to write an original thesis on some subject of his choice, which, of course, will include a review of the literature. It would stimulate teachers and students to better efforts along this line. Only two schools, Yale and Bowdoin, now have such a requirement.

The following resolution was introduced by the Committee on Pedagogics and was adopted:

Resolutions

Resolved, That the association request each school to ascertain and file in the dean's office the estimate of each instructor as to the time required, both in the class-room and at home, in each course offered in the catalogue.

Resolved, That the judicial council be instructed to report at the annual meeting in 1912 as to the proper standard to be established for medical colleges in various sections of the country, and that the judicial council be instructed to confer with the Council on Medical Education of the American Medical Association and with the Carnegie Foundation for the Advancement of Teaching in the hope that these three bodies may agree on a minimum standard that may be applied practically at the present time.

Resolved, That the judicial council be requested to report at the same time as to the best methods of carrying out the inspection of colleges in membership in the association as provided for in the by-laws, sections 6 and 7, and of schools applying for membership in the association. (These two resolutions were introduced by the Committee on Medical Education and adopted.)

Report of Committee on Equipment

The committee pointed out the great need for securing proper clinical facilities, and urged the colleges to formulate plans tending toward the acquisition of a teaching hospital, a hospital in which all the material is available for teaching purposes. The committee urged that this be made an equipment requirement, as much so as microscopes and other apparatus used for teaching.

Report of Committee on Pedagogics

The committee offered suggestions on four topics:

1. The Unit of Credit:—Students should be given time for independent analytical thought. The average student cannot work profitably, either in class or by himself, more than twelve hours a day for five days in the week, or for ten hours a day for six days in the week. Sixty hours a week should be the optimum number of hours under average conditions. This for thirty-two weeks of actual teaching means 1,920 hours, or for thirty-six weeks, 2,160 hours. The committee recommended the recognition of a ratio of two hours of preparation or reading to each hour of recitation or lecture, and one hour of preparation or reading for each two hours of laboratory or clinic teaching—a three-hour unit. Catalogues should state how these hours are subdivided in each course.

2. Discussion of Pedagogic Principles:—The committee suggested that the regular faculty meetings be given over to the discussion of these principles, best under the guidance of some professional teacher brought in for the occasion. The oftener such meetings are held, the better.

3. Syllabus:—A syllabus of the courses of study in the curriculum is a necessity because of the increasing specialization and subdivision. It will avoid misunderstanding and amendment.

4. Training of Teachers:—Can clinical teachers be efficient without private practice? The committee made no recommendations or suggestions, but presented the opinions of three men. One, a clinician with only hospital training, did not believe that any particular form of training could be mapped out as a prerequisite for clinical teaching. To be successful he must have the *Geist* and be trained thoroughly. The best man is he who devotes his time to work in the fundamental branches, to clinical work in the hospital and a moderate amount of consultation practice. Private practice is time-consuming, leaving little time for development. There should be two classes of clinical teachers: those who devote a large part of their time to medical school work and those who devote a small part. The second, a man who has enjoyed private practice, said that it is impossible that a man should carry on a medical practice and at the same time conduct a medical department in a hospital and teach students. A moderate amount of time may profitably be spent in consultation work. The third, also a man who has had private practice, regards some training in private practice as being as essential as a training in chemistry, bacteriology or pharmacology. But such training must be limited because otherwise other equally essential training will be neglected. He, too, favored some consultation practice because of its educational value and the necessary intercourse with practicing physicians which it furnishes.

(*To be continued*)

CLEVELAND ACADEMY OF MEDICINE

Meeting held Feb. 17, 1911

DR. W. B. LAFFLER in the Chair

Some Common Fractures and Results of Treatment

DR. FREDERICK J. COTTON, Boston: The Roentgen ray has wrought many changes in the point of view of treatment of fractures, and has enabled us to work with more precision. What we want is, first, the avoidance of obvious deformity, and second (much more important), the attainment of good functional usefulness. Most troublesome cases are the result of (1) not checking results by the Roentgen ray; (2) associated nerve lesions being overlooked at first, and when found, attributed by the sufferer to the treatment; (3) forgetting that functional usefulness is the main aim and caring only for position in all cases of Colles' fracture along with radial fracture there is a forward dislocation of the ulna, and in effect on functional result this is of more importance than radial fracture. After reduction splints should be applied: (1) to protect radial fragments from trauma or muscle contraction; (2) to hold the ulna back where it belongs (it can't be held too far back); (3) to be comfortable. Splints should not confine thumbs and fingers, and active motion should be started not later than the third day. The posterior splint should be removed in one week and all in from ten days to two weeks. In elbow fractures in adults, after reduction by traction and direct manipulation, the arm should be put in the position in which the fragments are most firmly held, and the best splint is the one which best accomplishes this. The Roentgen ray should be employed to see that reduction is good. Within a week, with fractures of one condyle, and within two weeks, with fractures of both condyles or in T fractures active motion is allowed once a day. The surgeon should hold the fragments firmly and support the forearm. In children, elbow fractures are usually more or less complicated epiphyseal separations. After the fracture is reduced what of treatment? (1) Passive massage and motion in children only stirs up joint reaction, pain and stiffness. (2) Active motion, without danger of slipping of fragments, is hard to control in children, and is not to be employed for four weeks. (3) Children with elbow lesions do not show any permanent stiffening (except from malposition of bones), so that we need not worry about reestablishing motion. (4) Separation of the external condyle shows many instances of non-union; separation of internal condyle always results in fibrous union.

Shoulder fractures are commonly of the anatomic or surgical neck. The former are usually impacted and occur generally in the aged. They had best be left alone and mobilized early. Fractures of the surgical neck occur generally in youths or strong adults and if there is great difficulty in reducing, I have no hesitancy in cutting down and levering fragments into place, when a stitch of chromic gut will hold them. Though this is a serious operation, I believe that separation of the humeral epiphysis or fracture of the surgical neck in vigorous persons will come to be recognized as a condition calling for early operation in a large percentage of cases. In leg fractures, the question that comes up is whether after reduction the position is not good enough to let go, not whether it is perfect, for perfect reduction is impossible. The general line of the shaft should be good, and a position must be avoided in which the outer side of the periosteum of one fragment is brought into contact with a similar surface of the other fragment as it presages non-union from poor formation of callus.

The commonest of all ankle fractures is a fracture of the fibula alone, and it may occur from inversion or eversion. The former is more common. A not uncommon fracture, which is not described in text-books, is a splitting off of a large portion of the back edge of the tibia in a fragment that carries the internal malleolus as well. The fibula is also broken. The foot, astragalus, tibial fragment and lower fragment of the fibula move backward together.

As to the disability of the ankle joint following fractures, we have three important factors, mostly independent of precise lesion: (1) distortion of joint surfaces, causing unnecessary joint friction and limitation of motion; (2) deviation of weight-bearing axis; (3) loss of function (due to long immobilization). In reducing such lesions we should aim to alleviate these faults as much as possible and use early, active motions, preventing stiffening.

DISCUSSION

Dr. Frank E. Bunts: In the last five or six years our ideas of the treatment of fractures have materially changed—due to the use of the Roentgen ray. Does Dr. Cotton think that ischemic paralysis is due to tight splints or to faulty position of the splints, and how long does it take to produce it? I find that Mr. Lane, of London, thinks the periosteum of no value in the formation of callus. What does Dr. Cotton think of the use of Bier's passive hyperemia in delayed union in fractures? In the last few years fractures of the carpal bones have attracted the attention of many; especially since the Roentgen ray has shown many of the so-called sprains to be fractures. Does Dr. Cotton believe in operating and removing the fragments when they are especially difficult to reduce?

Dr. J. F. Hobson: I agree with Dr. Cotton that a Colles' fracture once reduced does not usually become displaced again. In a Pott's fracture we have always been taught that the three lines of fracture were (1) lower end of fibula; (2) internal malleolus, and (3) a small chip that was generally broken off the outer edge of the tibia. I see that Dr. Cotton did not mention the latter, and I would like to ask him about its relative frequency. In a fracture functional result is what is first desired, second, as near a return to the normal as is possible.

Dr. G. W. Crile: Surgery is once more beginning to turn from the abdomen to the bones and joints. The latter have been neglected and it is high time that the specialist and general practitioner make a careful study of the bones and joints.

Dr. George B. Follansbee: I have found in all fracture cases that early movement of the joints is of great value and tends to prevent adhesions and stiffness. I would like to ask the speaker whether it is always possible to reduce a dislocated ulna in a Colles' fracture. At times I have great trouble in doing so and also in keeping it in place. Does it make much difference whether the styloid process is much separated in a Colles' fracture?

Dr. W. O. Osborne: I have at present two old cases of Colles' fracture. In both there has been left a preternatural mobility of the ulna; the joint is also a little painful and a trifle weak. Is there any way to remedy this?

Dr. F. J. Cotton: Ischemic paralysis is often difficult to separate from a nerve paralysis. I have seen very few cases of it. In one case in which there was a cord-like matting together of the muscles, I found it necessary to rupture the bellies of the muscles, and the patient has now a pretty good use of his arm. Another patient was improved by dissecting out the muscles and freeing the nerves, and, I think many of these cases of Volkmann's ischemic paralysis are due to nothing but pressure on the nerves. In such cases I would recommend dissecting out the nerves and clearing away the muscles. In contrast to Mr. Lane, I still believe the periosteum to be of great value in the formation of callus. However, I do not think that stripping away the periosteum causes death of the bone as was formerly taught, and in case of necessity I have no hesitancy in stripping it away. I feel that very little is known as to the cause of delayed union from internal diseases—outside of malignancy and diabetes. Locally, delayed union may be due to a faulty parallel position of the periosteum from the fragments lying side by side. In regard to Bier's passive hyperemia treatment, it may be of interest to say that its author now thinks so little of it that he has given it up. In fracture of the carpal bones, it is usually the scaphoid that is affected and often displaced. When the bone is merely cracked, there is frequently a union without any limitation of motion or thickening of the bone; and I generally do not operate in these cases. However, if the bone is broken, displaced and not reducible, we must cut down and remove the displaced fragments. In answer to Dr. Hobson, I might say that I do not feel that a broken chip from the outer edge of the tibia is characteristic of a Pott's fracture. I agree that to hold the ulna in place is one of the difficulties in treating a Colles' fracture. Recurrent luxation of the ulna, after an old Colles' fracture is one of the sequelæ at times, and in a bad case I would cut down and shorten the radio-ulnar ligaments. I do not believe in operating and undergoing any extra risk. In a large percentage of shoulder cases it is necessary, and one should operate before too much callus has formed.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Feb. 8, 1911

The President, Dr. C. B. Longenecker, in the Chair

Pellagra

Dr. Samuel Stern: The sense of security of the profession at present against the invasion of the pestilence is unwarranted. Pellagra will be found whenever one finds the factors necessary to cause the disease. The conditions are more widespread than heretofore credited, and it is the duty of the profession and the local and state health authorities to engage in a study of the disease in order that measures may be instituted to aid in its prevention and in the possible discovery of the cause and that a successful method of treatment may be found.

A Case of Pellagra Which Had Its Origin in Pennsylvania

Dr. M. B. Hartzell: G. R., aged 9, has spent all her life in Pennsylvania, most of it in Philadelphia. In August, 1909, she began to lose flesh, became melancholic, and some time later developed diarrhea. In the spring of 1910, a peculiar red-brown dermatitis of the hands and face developed. During her stay in the hospital there was considerable improvement, but soon after her discharge she grew worse and she died in October, 1910. All her symptoms were characteristic of pellagra. The eating of spoiled corn could be excluded as a causative factor with reasonable certainty. During the summer of last year I had the opportunity to study the disease as it occurs in northern Italy, and from the observation of a small series of cases I am convinced that in mild cases and poorly developed ones, the diagnosis may be surrounded with considerable difficulty; and that it is a mistake to lay too much stress on dermatitis and pigmentation unless accompanied by other symptoms, especially gastrointestinal.

DISCUSSION

Dr. Frank C. Knowles: I feel that the diagnosis of pellagra is almost impossible unless there are present the three Ds: diarrhea, dementia and dermatitis.

Dr. Leonard D. Frescoln: I have had two cases in Philadelphia which were suspicious of pellagra; but I have never seen any cases which were diagnosed to my own satisfaction by the authority of those who had seen the real disease in Italy. There has been shown no positive proof by blood-tests that from my study and reading I believe we should have. To the three Ds mentioned by Dr. Knowles, there should be added a fourth, that of "death." My impression is that practically all these patients die. They improve for a time, but finally die without any other manifest cause of death.

Dr. George E. Price: One is impressed with the great variety of mental symptoms that have been reported in association with pellagra. This is in a large measure due to the fact that many cases are found in the asylums for the insane. If there be any insanity of pellagra, it seems to me that it must from necessity follow the line of insanity of any infectious process. If we have a destructive agent sufficient to cause the changes that have been noted in the spinal cord in pellagra, we surely have a destructive agent sufficient to bring about pathologic changes in the brain and membranes. The cord changes have been those of a combined or diffuse sclerosis, comparable to the changes found in anemia and toxic states.

Dr. A. E. Roussel: My experience has been confined to four cases seen in South Carolina two years ago. The erythematous eruption in three of the four was marked. The necropsy findings were interesting in showing the earlier involvement of the membranes than of the cord proper. I feel that a thorough bacteriologic examination should be made before we assume definitely that every case of eruption of this or that type is pellagra. Even those experienced practitioners from neighborhoods where the disease abounds realize the difficulty of diagnosis in the early stages. Every safeguard should be adopted against the error of hasty diagnosis.

Dr. S. Stern: Regarding the relation of insanity to pellagra, abroad the figures vary from 10 to 30 per cent. Over 80 per cent. of the patients are not insane. Probably a very small percentage show any nervous manifestations. While it is true that dermatitis, dementia and diarrhea are important factors, and that their presence aids in diagnosis, I do not attach the same degree of importance to them as do some. The addition of "death" is out of order, since we desire to make the diagnosis in the early stage of the disease and not at the end.

The Destruction of Surface and Cavity Neoplasms by Desiccation

Dr. W. L. Clark: My work up to the present time would appear to justify the conclusions: 1. A current from a static machine of large output with properly attuned accessories, is capable of destroying tissue by desiccation. 2. Malignant growths *may be destroyed* without opening blood or lymph channels, thereby preventing further metastasis, or the inoculation of healthy tissue in adjacent parts. In cancer of the breast, in which there is involvement of the axillary or cervical glands, operation is indicated on account of inaccessibility of the involved structure; but, on the first appearance of recurrence, there would be a great possibility of arresting activity. In cancer of the cervix I believe it to be more desirable than the curette and cautery. It is a perfect sterilizing, destructive, styptic deodorant and is penetrating. It can be employed with a minimal degree of danger and discomfort and may offer a chance of cure if taken in time. 3. It simplifies the treatment of hemorrhoids and other neoplasms of the mucous membranes. Employing the endoscope as an aid, cavity lesions may be treated successfully. Its applicability in the bladder has been shown, and it is perfectly possible to apply it deeply into the rectum, the interior of the uterus, the throat, the esophagus and even the stomach. 4. In warts, moles, pigmentations and in certain other cutaneous lesions, the destruction is a simple matter and the cosmetic effect good. Old pus sacs may be entered, destroyed and sterilized, as in pustular acne, etc. Sluggish ulcers may be stimulated to repair. 5. Fulguration produces its effect by a coarse kind of mechanical superficial charring, while oscillatory current desiccation produces a refined, penetrating, devitalizing effect by drying, and possibly, some biologic effect in addition which I cannot at the present time define.

DISCUSSION

Dr. B. A. Thomas: It is true that good effects are obtained by this method in the treatment of papillomata of the genitourinary tract. In a case of papilloma of the bladder recently treated, the tumor has had but two applications of the current and shows improvement. In one case of papilloma of the rectum, ten days after a single treatment the papilloma could not be found.

Dr. William J. Dugan: In my opinion, we have no proof of this "oscillatory" movement, and nothing is shown that has not been known for years. It seems to me that we have no scientific facts. The Roentgen ray, radium and fulguration, I believe, are palliative, but I do not believe that they cure cancer or sarcoma. If, after a diagnosis of such condition by a good pathologist, the patient is cured I shall accept the facts.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 16

1 *The Lumbosacral Articulation. An Explanation of Many Cases of "Lumbago," "Sciatica" and Paraplegia. J. E. Goldthwait, Boston.
2 Diverticulitis of the Sigmoid. W. P. Graves, Boston.
3 A Series of Cases of Syphilis Treated by Salvarsan at the Walter Reed General Hospital, District of Columbia. H. W. Jones, U. S. Army.
4 Liquid Air in Surgery. T. C. Beebe, Boston.

1. **The Lumbosacral Articulation.**—An experience in connection with the treatment of a patient with a spinal lesion was so disastrous to the patient and so distressing to Goldthwait, that a series of investigations were started by him in the hope of bringing some relief to the patient, and at the same time of preventing such happenings in the future. When very tired from a long stress of work, in lifting a heavy object, the patient strained his back, producing a distinct displacement of the sacro-iliac joint on the right side. The condition was recognized at once, and under nitrous oxid anesthesia the bones were replaced without difficulty. This was followed by a fairly normal recovery, so that in about three months the subjective symptoms had largely disappeared. At that time, after a fairly long car journey, the man carried a very heavy suit case in one hand, without change, for a distance of over half a mile, with the result that the back became painful. Two days later he consulted Goldthwait because of pain and sensitiveness in the lower back. At that time the sacro-iliac joints were shown to be strained, but the bones were not displaced. The next night, in turning over in bed, he felt a distinct slip exactly similar in all its sensations to that felt at the time of the first displacement. In the morning, after having a restless night, he was able to get up and take his usual tub bath. On trying to get out of the tub, in leaning forward and straining to get up, something slipped in his back, entirely different from anything he had before experienced. The body was drawn forward and to the left; there was intense pain, so that it was with great difficulty that he was able to get back to his roo
and the suffering continued until he was seen by Goldthw

four hours later. At that time the body was held bent forward and to the left. There was extreme tenderness in the sacral region, with pain extending into the legs, the right being much worse than the left. All efforts to give the patient relief failed. The more the case was studied, the more it seemed that some mechanical element must be the real difficulty, and that the point of pressure was probably somewhere below the giving off of the lumbosacral cord, although not much below this because all of the nerves making up the cauda equina below this point were involved. It was obviously spinal, since no lesion or involvement of the nerve roots or of the sacro-iliac joints could explain so complete a bilateral condition. The more the case was studied, the more definite the lumbosacral articulation seemed to represent the seat of the difficulty, and this was strengthened by the fact that when the patient was placed on his back to have the jacket applied a few days after a laminectomy there was something of the same sensation that was present when the first jacket was applied, and this was at once relieved by raising the buttocks. A similar sensation also developed when he was placed on the back to have a skiagraph taken.

This led Goldthwait to make a very careful and thorough study of the mechanics and anatomy of the lumbosacral articulation. He found that the lumbosacral articulation varies greatly in its stability, depending on peculiarities in the formation of the articular processes and of the transverse processes; that these peculiarities not only result in less than the normal strength of the joint, but may represent mechanical elements, which not only produce strain and cause pain, but may lead to such great instability that actual displacement of the bones may result, with at the same time the separation of the posterior portion of the intervertebral disk. In such displacement, if the fifth lumbar vertebra slides forward on the sacrum, spondylolisthesis, the condition is usually compensated for, and pressure on the cauda equina or the nerve roots does not occur. If the displacement be on one side, the spine must be rotated and the articular process of the fifth drawn into the spinal canal with such narrowing that paraplegia may result, or the crowding backward of the intervertebral disk alone may be so great as to cause similar paraplegia, but of more gradual development. Weakness of the joints or the partial displacements may cause irritation of the nerves inside or outside of the canal and produce the bilateral leg pains often called sciatica.

Medical Record, New York

March 18

5 Hygiene of Public [illegible] pf, New York.
6 Importance of the [illegible] st for the Recognition of Ulcers [illegible] Tract. M. Einhorn, New York.
7 Two Cases of Ainhum. T. Abbe, Washington, D. C.
8 Criminal Abortion. A. D. Strasser, Arlington, N. J.
9 A Sociologic Experiment. G. F. Lydston, Chicago.
10 Multiple and Comminuted Fractures of the Metatarsal Bones in a Child. M. Leale, New York.
11 Sudden Death Following Spinal Puncture for Diagnosis. E. M. Colie, New York.
12 Short Talks with My Students and Others: Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

New York Medical Journal

March 11

13 Clinical Results from Use of Salvarsan. H. Fox and W. B. Trimble, New York.
14 Simple Apparatus for Intramuscular Administration of Salvarsan at the Bedside. A. L. Wolbarst, New York.
15 A Lanolin and Oil [illegible] for Intramuscular Injection. J. G. [illegible]
16 Technic in Adenoid [illegible] L. D. Alexander and J. T. Gwath[illegible], New York.
17 An Extracerebral Tumor in the Region of the Hypophysis Cerebri. F. J. Farnell, New York.
18 A Case of Colon Bacilluria in a Twelve-Year-Old Girl. J. Pedersen, New York.
19 The Effervescence Test for Gastric Acidity. A. L. Benedict, Buffalo.
20 The Eradication of Plague from Large Cities. C. W. Vogel, Washington, D. C.
21 Phrenology and Its Founder: The Claims of Franz Joseph Gall on the Homage of Scientific Posterity. J. Knott, Dublin.

March 18

22 Surgical Aspect of Gastric and Duodenal Ulcer. J. B. Deaver, Philadelphia.
23 Stomach Disorders Requiring Surgical Intervention from the Viewpoint of the Internist. C. D. Aaron, Detroit, Mich.
24 *Treatment of Tuberculosis by Deep Muscular Injections of Mercury. B. L. Wright, U. S. Navy.
25 Laboratory Notes on the Presence of Fats and Lipoids in the Lesion of Rhinoscleroma and on Variations in Its Bacteriology. J. Wright and L. W. Strong, New York.
26 *Relation of Gall-Stones to Cancer of the Bile Tract. J. A. McGlinn, Philadelphia.
27 *Irrigation Treatment in Septic Abortion. H. Weil, New York.
28 Individual Immunity. W. Lintz, Brooklyn, N. Y.
29 *Pneumothorax with Acute Abdominal Symptoms. E. J. G. Beardsley, Philadelphia.
30 Pinworms and Caraway Seed in Infant's Appendix. I. Kornbluh, New York.

24. **Mercury in Tuberculosis.**—During the past three years Wright has reported several hundred cases of chronic tuberculosis successfully treated by this method; among them were exhibited local lesions of practically all the organs and tissues, excepting the brain. He believes that the cases reported by himself and others demonstrate the fact that tubercle bacilli have a strong affinity for the succinimid and bichlorid of mercury. He has reported a number of cases in which three or four injections of one or the other of these salts caused the tubercle bacilli to disappear from the sputum and feces, and the cessation of the most profound toxemia. He now reports a case of acute miliary tuberculosis treated in this manner, which terminated in recovery and apparent cure, and which, in his opinion, emphatically and unquestionably demonstrates the parasitotropic and antitoxic properties of mercury in relation to tuberculosis. In less than eight weeks after the onset of the disease, at a time when 95 per cent. of these patients are either dead or dying, and six weeks after the administration of the first injection, the patient, a seaman, resumed his full duties on board ship, apparently cured. This result prompts Wright to say that in mercury we have the chemical affinity of the tubercle bacillus, and he expresses the hope that experimentation will sooner or later develop a command of mercury for which these organisms will have even a stronger affinity than they display for the succinimid.

26. **Gall-Stones and Cancer.**—This report is based on a study of over 9,000 post-mortem records in the Philadelphia General Hospital. In the report McGlinn has included cancer of the liver, pancreas and duodenum, on account of their close relationship to the biliary passages. In all, there are records of 456 cases of cancer. The liver was the site of primary cancer in twenty-six cases. Gall-stones were present in the gall-bladder in three cases and in the cystic duct in one case. The pancreas was the site of primary cancer in thirty-six cases. Gall-stones were present in the gall-bladder in four cases and in the gall-bladder and all the bile-ducts in one case. Gall-stones, then, were present in eight of the eleven cases of primary cancer of the gall-bladder. In primary cancer of the bile-ducts stones were present in three of the five cases. In the entire series of over 9,000 post-mortem examinations gall-stones were found in 507 cases. Studying these few cases, McGlinn says, it would seem that gall-stones play an important part in the etiology of cancer of the gall-bladder and bile-ducts, but in cancer of the liver and pancreas they are only incidental. They occurred no more frequently in cancer of these two organs than in cancer of more remote organs. There was a record of but one case of cancer of the duodenum; stones were not present.

27. **Irrigation in Septic Abortion.**—Weil urges continuous or frequent irrigations on the basis that absorption from the lochia is an important factor in the production of the toxemic element of puerperal sepsis.

29. **Pneumothorax.**—In the case cited by Beardsley, the onset of an acute pneumothorax caused violent abdominal symptoms which closely simulated those of perforative peritonitis.

Lancet-Clinic, Cincinnati

March 11

31 Operative Steps in Closure of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.
32 Glioma of the Retina. S. C. Ayres, Cincinnati.
33 Double Glioma of Retina. K. L. Stoll, Cincinnati.
34 Value of Test-Meal in Stomach Diagnosis. F. L. Rattermann, Cincinnati.
35 A Simple and Economic Outfit for Intravenous Administration of Salvarsan. A. W. Nelson, Cincinnati.

March 18

36 Finger Enucleation of the Tonsils. W. Mithoefer, Cincinnati.
37 Gradual Evolution of a Sane Therapy in Tuberculosis. F. M. Pottenger, Monrovia, Cal.
38 Recognition of Incipient Pulmonary Tuberculosis. A. Faller, Cincinnati.

California State Journal of Medicine, San Francisco

March

39 Acute Cholecystitis. W. W. Kerr, San Francisco.
40 Systemic Gonorrheal Infection. W. P. Willard, San Francisco.
41 *Relief of Glaucoma by Subconjunctival Sodium Citrate Injections. H. G. Thomas, Oakland.
42 *Operative Treatment of Fractures of the Neck of the Femur. S. J. Hunkin, San Francisco.
43 The Squirrel Plague Problem. G. W. McCoy, San Francisco.
44 Artificial Cultivation of the Lepra Bacillus in Hawaii. H. E. Alderson, San Francisco.
45 A Case of Hernia in a Child. T. G. Dodds, Oakland.
46 Acute Lymphatic Leukemia. J. M. King, Los Angeles.
47 Non-Union of Fracture. A. W. Morton, San Francisco.
48 Diseases and Injuries to Knee-Joint and the Treatment. E. H. Smith, San Francisco.
49 Present Status of Cancer Investigation. P. K. Brown, San Francisco.
50 Status of Vaccine Work in Cancer. P. K. Gilman, Manila, P. I.
51 Operative Treatment of Hyperthyroidism. W. I. Terry, San Francisco.
52 Fracture of the Femur. E. Smith, San Francisco.
53 Four Cases of Tumor of the Cerebellopontile Angle. M. B. Lennon, San Francisco.
54 Operation to Expose the Cerebellopontile Angle. H. M. Sherman, San Francisco.
55 Three Cases of Probable Cancer Transplantation from the Use of the Gilman Vaccine. W. B. Coffey, San Francisco.

41. **Relief of Glaucoma.**—During the past year and a half, Thomas has been using subconjunctival injections of sodium citrate to reduce the tension. Its use was suggested by the antagonism discovered to exist between the effect of acids and neutral salts on the imbibition of water by colloids. The method consists in the injection of from 5 to 15 drops of a 4.05 per cent. to a 5.41 per cent. solution of the chemically pure crystallized sodium citrate, preceded by the instillation of a cocain and an adrenalin solution into the conjunctival sac. During this time he has treated nine cases of primary and two of secondary glaucoma; all but one occurred in women. As a group, the primary cases were in individuals over the age of 45, and concerned thin, ill-nourished women of sedentary habits. The effect of these injections in reducing tension was unfailing and without evil consequences. After each injection there was a relief of the symptoms of glaucoma for from three days to several weeks. Thomas believes that the advantages of the subconjunctival sodium citrate injections over the other recognized surgical or medical procedures are evidently to be sought in their simplicity and in the promptness with which they produce results. Clearly these injections do not constitute a "cure" for glaucoma, but no more do iridectomies, sclerotomies or any other procedures which merely aim to reduce tension.

2. **Operative Treatment of Fractures of Neck of Femur.**—technic of the operation followed by Hunkin is described lows: The patient is placed on the back with each leg protected and wrapped separately. The assistant marks the line of the femoral artery just below Poupart's ligament. A cres .t incision from 9 to 15 cm. in length, depending on the of the patient, is swept from the anterior superior this incision reaches the muscular layer. In fat subjects ision divides a little of the rectus femoris and sartorius. In thinner subjects the muscle is not divided by reason of the incision being shorter. A few strokes of a dry dissector and the pulling inward of the sartorius brings one at once on the capsule of the hip joint. A little rotation of the leg, with a finger on the capsule, locates the anatomy and demonstrates the fracture. The capsule is then opened with a knife and the fragments are exposed. A pair of deep retractors are introduced when direct observation of the fragments can be made. The internal fragment can be rotated with the hand or with a dry dissector and the cartilage of the head observed. The external fragment moves, of course, with the leg. The leg is then manipulated until the fractured ends are in contact and placed in that position, whatever it may be in which they appear less likely to slip. In recent fractures this is usually in the extreme abducted position of Whitman. One assistant is now given the sole duty of maintaining this corrected position, and the parts are fully exposed so that the assistant can see the anatomic landmarks of the pelvis.

A tiny puncture with a bistoury is then made over the trochanter, from 4 to 5 cm. below the tip, into the bone, and a steel (sometimes silver-plated) nail, 8 cm. long, is driven through the trochanter and neck into the head. When the small head of the nail approaches the skin a steel "set," cupped to fit the head of the nail, is applied to the nail, which is driven firmly home. After the nail is located Hunkin often drives one of his staples across the line of fracture, the inner arm going into the head just at the cartilage rim, and the outer arm into the neck to the outer side of the fracture. The capsule is then closed as tight as possible with firm catgut and the wound closed in the usual manner. A plaster-of-Paris spica is then closely applied from toes to mammary line, during the setting of which firm pressure is made downward and forward from above and behind the trochanter.

Journal of the South Carolina Medical Association, Charleston

February

56 Life of Dr. J. Marion Sims. J. H. Allen, Spartanburg.
57 Lumbar Puncture in Children. T. W. Ely, Charleston.
58 The Tonsil Question. S. H. Griffith, Gaffney.
59 The Uncinariasis Problem a Real One. W. A. Plecker, Hampton, Va.

Bulletin of the Manila Medical Society

January

60 *Poisoning from Datura Alba Seeds. F. B. Bowman, Manila.
61 Hemorrhagic Disease of New-Born Infants. F. W. Vincent. Baguio, P. I.
62 *Philippine Contact-Poisonous Plants. C. B. Robinson, Manila.
63 *A Case of Tetanus from "Fuentes." R. Llamas, Manila.

60. **Poisoning from Datura Alba Seeds.**—In Manila and other parts of the Philippines the plant *Datura alba* (Nees) grows in great abundance, and from this plant hyoscin may be obtained in large quantities. The alkaloid is found in all parts of the plant, but in greater amount in the seeds than elsewhere. One of the chemists employed in the Bureau of Science of Manila, while conducting experiments with *Datura alba*, ate approximately a gram of the seeds. He probably took in all 5 milligrams of the alkaloid, and because of the severity of the symptoms produced his case is reported. After half an hour he noticed that his mouth seemed dry and in an hour felt somewhat flushed and noticed that his pulse was rapid. When Bowman saw him an hour later the pupils were widely dilated, he was nervous and restless and laughed most of the time. His face was flushed, pulse rapid—130 a minute. His speech was scanning in character and he was unable to make connected sentences. Later he became drowsy and had hallucinations, and as the symptoms seemed to be becoming more severe, he was sent to the hospital. After arriving there he became very drowsy and was soon asleep. The skin was very dry, though micturition seemed to be excessive. He was given a hot pack and remained asleep until the next morning. On awakening, except for some weakness, he seemed to be quite well again. He still had some trouble in completing his sentences, and he remembered nothing that had happened after the commencement of his symptoms. This case of poisoning was severe, but not serious. In cases of poisoning, Bowman says, the stomach should be evacuated as soon as possible. Pilocarpin in large doses has been used with alleged good results, but it is necessary to give so much to counteract even small doses of alkaloids of the atropin series that its use as an antidote is questionable. Hot packs should be used in severe cases, and any respiratory or cardiac symptoms watched carefully and treated.

62. **Philippine Contact-Poisoning Plants.**—With the purpose of ascertaining the facts concerning the possibility of poisoning by the hairs of the leaf-sheaths of bamboo, the following experiment was made by Robinson. The bamboo was that known as cauayan quilling, a name which seems to be used only for *Bambusa vulgaris* Schrad; it is widely distributed in the tropics, both eastern and western, and had been cut the day before. About 10 a. m., August 11, numerous hairs were rubbed on the upper arm. By noon the skin was reddened around the place, but no pustules could be detected. In the afternoon this reddening disappeared, and there were bare traces of pustules. The first itching sensation was noticed about 10:30 p. m., but the pustules were still few and small. By the next morning they were fairly plentiful, but small, with the surrounding skin reddened, without evident sensation. This condition continued throughout that day and the next, with occasional slight itching hardly perceptible except

on rubbing. From August 14 to 17 there was a gradual decrease, the pustules being still evident, without itching, with slight yellowish discoloration of the skin; on the morning of August 18 they were at the limit of visability, and would not have been noticed if their history had not been known. The immediate incentive to the experiment was the finding of similar pustules on the hands, a day after gathering bamboo material. The pustules disappeared without treatment, after a comparatively short time. While the bamboo, then, may be considered poisonous, the effect is not severe, and should not lead to anxiety.

A definite test on the nettle-like plant, *Fleurya interrupta* (Linn.) Gaudich., showed that the stinging sensation was felt at once, becoming moderately severe. After about five minutes, pustules began to form, but the pain ceased about the same time. The pustules soon disappeared, without treatment.

A recent involuntary contact with *Laportea meyeniana* (Walp.) Warb., lipa or lipang calabao, while causing immediate pain, did not result in any development of pustules; this is in agreement with experiments of others, even in severe cases of stinging by this plant.

63. **Tetanus from "Fuentes."**—"*Fuente*" is a cure practiced by the arbolarios or unlicensed physicians in the Philippines on persons suffering from stubborn diseases, such as beriberi, tuberculosis, anemia, etc., which, they think, physicians have failed to cure. Llamas says that it is a common belief among the poor class of people (and of some of the middle class), especially in the provinces, that they are relieved from their long suffering by opening a "fuente," as they express it, either on the arm, thigh or leg. Undoubtedly, this custom also prevails in Manila, having probably been introduced from the provinces. To start the infection, a mixture of lime and Chinese soap, in the proportion of two to one, is made into a "bolita" (pill), the diameter of which varies from 0.5 to 1 cm. This pill is then placed on the fleshy, least vascular part, usually the arm or leg, and is held in place by a tight bandage for twenty-four hours, or until a blister is formed. Next day another "bolita" of the same size (made of garlic) is placed on the surface of the previously opened blister, the wound dressed as before and the dressing is not removed until pus is produced and a cavity formed. The same effect may be produced by burning the skin directly with a lighted cigarette. The cavity once formed, another "bolita," made of Chinese wax or betel nut, is put in and covered with a piece of Chinese blotting paper. A hole is made in the middle of the paper and a piece of banana leaf is put on next and loosely bandaged. By the pressure the cavity receives, it becomes so deep that the pill soon has a cavity large enough to hold it.

Each part of the dressing has its own purpose. The pill is to maintain constant pressure on the cavity and to prevent any healing. The Chinese blotting paper absorbs any secretion, the banana leaf protects the wound from becoming wet and the bandage keeps out the air. The wound is washed morning and afternoon with warm guava water or ordinary tepid water and the dressing is changed. It is supposed that the secretion removes the impurity of the blood which has caused the sickness. If the "fuente" fails to cause secretion, the sickness is said to be incurable; if the patient gets well, the "bolita" or "pelotilla" is removed and the wound treated as before until it heals. Last May, Llamas treated a case of tetanus which was contracted through a "fuente" in the right leg of a woman suffering from beriberi and anemia. He thinks that an investigation would show that many cases of tetanus originate from infection due to the application of "fuentes."

Journal of the Arkansas Medical Society, Little Rock

February

64 *Postanesthetic Acidosis. J. G. Eberle, Fort Smith.
65 A Plea for More Accurate Diagnosis in Gynecologic Conditions. W. A. Snodgrass, Little Rock.
66 Cesarean Section Under Unfavorable Conditions. A. G. Harrison, Little Rock.
67 Cesarean Section. G. S. Brown, Conway.
68 *Preventable Blindness. J. G. Watkins, Little Rock.
69 Gunshot Wounds of the Abdomen. R. C. Dorr, Batesville.
70 Medical Organization. M. L. Norwood, Locksburg.

64 and 68. Abstracted in The Journal, June 11, 1910, p. 1992.

Journal of the American Public Health Association, Columbus, Ohio

February

71 *Preventive Principles in the Field of Mental Medicine. W. White, Washington, D. C.
72 *Prevention of Feeble-Mindedness. E. R. Johnstone, Vinelan N. J.
73 Sanitation of Bakeries and Restaurant Kitchens. C. B. Ba Chicago.
74 *Saving Children from Milk-Borne Diseases. N. Straus.
75 Training of Janitors in Sanitary Care of School Premis H. C. Putnam, Providence, R. I.
76 Electrolytic Production of Sodium Hypochlorite. C. Hoover, Columbus, Ohio.
77 An Emergency Hypochlorite Plant. H. A. Whittaker a J. A. Childs, Minneapolis.
78 The Hyperchlorite Treatment of Water at Minneapolis. J. Corbett, Minneapolis.
79 *Resistance of Certain Bacteria to Calcium Hypochlorite. F. Wesbrook, H. A. Whittaker and B. M. Mohler, Minneapol

71 and 72. Abstracted in The Journal, Sept. 24, 1910, p. 11

74. Abstracted in The Journal, Sept. 17, 1910, p. 1044.

79. **Resistance of Certain Bacteria to Calcium Hypochlori**—On treating Mississippi River water even with large amoun of calcium hypochlorite, the authors found it impossible effect complete sterilization. The predominant organis remaining after treatment was found to be a spore-beari bacillus. Treatment of this organism in pure culture has de onstrated a great resistance of certain spore-forming bacte to this chemical, which may be one of the factors, if not t most important one, in the failure to produce complete ster ity, and is probably the cause of the later rise in bacter count after treatment in certain experiments. Results on t comparative treatment of *B. coli* and *B. typhosus* in pure c ture show, in a general way, that the sum total of amoun of calcium hypochlorite required to exterminate both organis is about the same, yet in the selection of individual cultu some variation in the amounts actually required is indicat The results further demonstrate in a general way that pendi the formulation of better technical methods we may contin to regard the presence or absence of colon bacillus in treat waters as the index of possible infection with, or freed from, the typhoid organism. The authors venture to expre the hope that investigations may soon be undertaken in th country or abroad, which will seek to determine the effect the variable factors responsible for variations in efficiency sterilization procedures in which hypochlorites are employed.

New Mexico Medical Journal, Las Cruces

February

80 Preventive Medicine in the Southwest: Its Aims and Li tions. J. W. Flinn, Prescott, Ariz.
81 A Case of Traumatic Jacksonian Epilepsy. M. K. Albuquerque.
82 Splanchnoptosis and Its Surgical Treatment. H. A. Ing Roswell.

Archives of Internal Medicine, Chicago

March

83 *Two Cases of Adams-Stokes' Syndrome with Heart-Blo W. S. Thayer, Baltimore, and F. W. Peabody, Cambrid Mass.
84 A Case of Poisoning Due to Eating Poison-Hemlock (Cic Maculata). A. Egdahl, Menomonie, Wis.
85 *The Opsonic Index in the Diagnosis of Mixed Infection Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
86 Entamœba Tetragena as a Cause of Dysentery in the Phili pine Islands. C. F. Craig, Washington, D. C.
87 *The Acidosis Index. T. S. Hart, New York.
88 Acute Yellow Atrophy of the Liver. E. Novak and E. Whitney, Baltimore.
89 Allergy. C. E. von Pirquet, Baltimore.

83. **Adams-Stokes' Syndrome.**—Two cases of heart-blo which came under the observation of Thayer and Peabo during the past year presented features of unusual interes Case 1.—A man of 53, with rather thickened arteries and slightly enlarged heart, with evidences of sclerosis at the aor ring (rough systolic murmur), showed: (1) Syncopal and co vulsive seizures, associated with bradycardia and marked irre ularity in the size and sequence of the beats. These occurr often in groups of three or more in rapid succession, follow by intermissions amounting sometimes to nearly or quite ha a minute in length. The auricular, which could often counted clearly in the neck, was usually 100 or above. Lo intermissions in the ventricular pulse were usually associat with long periods of apnea. No wholly satisfactory tracin were taken during paroxysms of this sort. Those which we

made suggest a complete dissociation. (2) Similar attacks, usually without convulsions, in which the ventricular beats occurred in groups of from two to three to ten, always at the same rate, and apparently following the same impulses as the auricular beats. These groups of beats were separated sometimes by intermissions amounting to as much as fifteen seconds. The auricular pulsations could usually be counted in the neck, and were sometimes as slow as 50. Sphygmographic tracings showed that these groups of beats consisted of a primary ventricular contraction, apparently automatic, which was succeeded shortly by a series of beats which followed the preceding auricular contractions after an a-c conduction time of approximately normal duration. During these groups of beats the auricular rate became progressively slower without lengthening of the conduction time, until finally the ventricular impulses stopped. The retardation of the auricular impulses continued during the next several auricular contractions, after which it became more rapid. Such attacks yielded on three occasions to the administration subcutaneously of atropin, gr. 1/60 (0.001 gm.). The auricular rate after atropin was slower than it was before, but more rapid than the rate of several slow beats at the time of onset of the periods of ventricular intermission. (3) Periods during which there was a fairly regular ventricular rhythm of about thirty to the minute with a rather rapid auricular rate (100 to 120). The tracings show an apparently complete auriculoventricular dissociation. One of these attacks failed to yield to atropin, gr. 1/30 (0.0021) given subcutaneously. (4) Periods during which intermission in the ventricular pulse occurred at varying intervals and lasted for varying periods of time, followed usually by an apparently spontaneous ventricular contraction, which was succeeded by one or more beats after a normal a-c conduction time. (5) Periods between these attacks in which the heart's action was regular, and the sphygmographic tracings revealed no abnormalities, the a-c interval remaining always normal. Although there have been seven or eight grave attacks of Adams-Stokes' syndrome in a year and a half, the patient is to-day in good condition.

CASE 2.—A man, aged 83, for three or four years had had dyspnea on exertion and attacks of giddiness and faintness in which he had fallen to the street. Following treatment with infusion of digitalis, but persisting for more than a month after its discontinuance, there occurred periods of bradycardia, during which the pulse was sometimes nearly regular at about 40 and at other times irregular. The pulsations of the auricles observed in the neck were more frequent than those of the ventricles. The auricular pulsations further manifested themselves by a slight audible sound and sometimes by a palpable and even visible impulse at the apex. The cardiosphygmographic tracings showed a regular auriculoventricular rhythm, with much-prolonged a-c time, amounting sometimes to almost 0.6 of a second. At times there is characteristic dropping out of ventricular beats, associated with progressive *prolongation* of the a-c period and failure of conduction. At other periods there is an attempt to set up a spontaneous ventricular rhythm at the rate of about 40, a rhythm, however, which is not quite regular because of an occasional precocious ventricular contraction due, apparently, to the passage of a stimulus through the auriculoventricular bundle. The administration of atropin, gr. 1/30 (0.0021 gm.), resulted in the complete disappearance of irregularity and the development of a regular auriculoventricular rhythm with prolonged a-c conduction time. Pressure on the vagus resulted in the dropping out sometimes of alternate and, occasionally, of two successive ventricular beats. There was slight slowing of the auricular rate, with no apparent modification of the a-c conduction time. On one occasion, the administration of atropin, gr. 1/30 (0.0021 gm.), was followed by rapid action of the heart with alternating pulse. A year after the termination of these studies the patient was seen again, with an apparently complete auriculoventricular dissociation, the ventricular rate, however, being about 40. The authors regard this case as a typical instance of disease of the bundle of His in a hypertrophied and dilated heart.

85. **The Opsonic Index in Pulmonary Tuberculosis.**—Pettit does not regard the opsonic index as being an accurate method of diagnosis of mixed infection in pulmonary tuberculosis.

87. **The Acidosis Index.**—The method devised by Hart depends on the intensity of the color developed by adding ferric chlorid to urine containing the acetone bodies (Gerhardt's reaction).

St. Louis Medical Review

February

90 Tuberculosis: Its Nature, Causes and Prevention. J. B. Huber, New York.
91 Abdominal Pain. C. P. Thomas, Los Angeles.
92 The Most Vital Point in Anesthetizing. E. H. Williams, San Francisco.
93 Malignant Degeneration of Chronic Ulcers of the Leg. (So-Called Marjolin's Ulcer.) H. L. Kretschmer, Chicago.
94 Professional Confidences. E. S. McKee, Cincinnati.
95 Gastric Ulcer. J. G. Sherrill, Louisville, Ky.
96 Leprosy. J. Knott, Dublin, Ireland.
97 Medical Men of the Orient. A. H. Moodricker, Wabash, Ind.
98 Aims and Methods of Medical Education in America. G. Richter, St. Louis.

Colorado Medicine, Denver

March

99 Mild or Obscure Syphilis. A. J. Markley, Denver.
100 Nature of *Prolapse* of *Genitalia* in Woman. C. S. Elder, Denver.
101 Cancer of the Stomach. J. R. Arneill, Denver.
102 *Congenital Defect of the Clavicle. H. R. McGraw, Denver.
103 Colles' Fracture. L. W. Ely, Denver.

102. **Congenital Defect of Clavicle.**—Five or six days after the birth of McGraw's patient, the nurse noticed a slight swelling under the left ear. On examination this swelling seemed to be the sternocleido mastoid muscle in a state of constant contraction. Beneath this swelling and somewhat external to it there was a small knob, which proved to be a rudiment of the clavicle about 1 inch long. The outer end was attached to the acromion process of the scapula, and the small rounded prominence was freely movable. All the inner portion of the clavicle was missing. The shoulder could be drawn forward and inward to the median line, and the scapulæ projected behind. At this time it was thought that this bony knob or enlargement might be a beginning osteosarcoma. Dentition has been perfectly normal in every respect. At the age of 17 months a second radiogram was made and showed the clavicle absolutely perfect. This case is regarded as being of interest chiefly through its demonstration of the fact that there must be more than one center of ossification in the clavicle, and that the delay in development through some embryologic accident did not inhibit the subsequent growth of the center or centers forming the nucleus for the inner portion of the clavicle in the case cited. Careful inquiry has been made into the matter of heredity brought forward so *prominently in* the cases of Marie, Sherman and King, but with an absolutely negative result; neither was there association with rickets.

Yale Medical Journal, New Haven, Conn.

February

104 Results in Sanatorium Treatment of Tuberculosis. W. B. Bartlett, Hartford, Conn.
105 Wind Instruments and Longevity. J. F. Rogers, New Haven, Conn.
106 A Case of Long-Standing Nephritis in a Boy. G. Blumer, New Haven, Conn.
107 Periodic Attacks of Indigestion in Children, Accompanied by Presence of Diacetic Acid in the Urine. W. G. Murphy, E. Hartford, Conn.
108 Relative Value of Symptoms, Physical Signs, Tuberculin and the Roentgen Ray in Diagnosis of Tuberculosis. H. F. Stoll, Hartford, Conn.

Annals of Surgery, Philadelphia

March

109 *Parathyroid Implantation in Treatment of *Tetania Parathyreopriva*. W. H. Brown, Victoria, Australia.
110 Gastrostomy as a Curative Measure Per Se in Non-Malignant Strictures of the Esophagus. J. R. Eastman, Indianapolis.
111 Operative Treatment of Wounds of the Heart. G. W. W. Brewster and S. Robinson, Boston.
112 *Importance of Preserving the Gall-Bladder in Operations on the Gall-Passages. J. W. Long, Greensboro, N. C.
113 Retroperitoneal and Mesenteric Cysts of a Simple Nature. G. H. Makins, London.
114 *A New Abdominal Incision to Facilitate Intra-Abdominal Operations. H. A Kelly, Baltimore.
115 Supernumerary Kidney Seat of Cystadenoma. F. *Cobb and* H. G. Giddings, Boston.
116 Damage Done to the Kidney by Operation. J. E. Moore and J. F. Corbett, Minneapolis.
117 *Empyema of the Ureter. H. A Fowler, Washington, D. C.
118 Control of Urinary Drainage After Cystotomy. H. H. Sinclair, Walkerton, Ontario.
119 Technic of Median Perineal Prostatectomy. S. Alexander, New York.

120 *Operation for Stiffening the Knee-Joint. R. A. Hibbs, New York.
121 *Intussusception in the Adult. S. H. Watts, Charlottesville, Va.

109. **Tetania Parathyreopriva.**—In Brown's case, the implantation of monkey parathyroids was the only measure which with any permanence put the patient in better condition. Finally, however, it became necessary to transplant human parathyroids. After this procedure, the patient's progress toward recovery was continued and uneventful.

112. Abstracted in The Journal, Jan. 7, 1911, p. 67.

114. **Removal of Skin-Fat Wedge.**—The value of removing wedges of skin and fat in patients who are not troubled with obesity, but simply and solely for getting rid of a part of the thickness of the abdominal wall and making the field of operation more accessible, is emphasized by Kelly. An oval or an elliptical transverse excision is made, cutting right down to the strong fascia overlying the rectus and the oblique muscles. All bleeding vessels ought to be tied carefully. When this piece of skin and fat is removed the operator then finds it much easier to open the abdominal wall and operate than in a similar case in which he has to retract this embarrassing mass of tissue as well. Kelly closes such a wound with a fine catgut suture, catching a distinct layer of fascia about the middle of the fat, the silkworm-gut sutures uniting both skin and fat.

117. **Empyema of the Ureter.**—Fowler's patient, a man, gave a history of calculous diseases of fifteen years' duration. The onset was marked by symptoms referable to the kidney. He had passed a great many calculi. Perineal section was performed for an impacted calculus in the urethra. Another stone was removed from the urethra by milking it forward to the meatus. Two litholapaxies were performed. The left kidney was removed on account of calculous pyonephrosis. Empyema of the left ureter developed as a result of the presence of a calculus, which was demonstrated in the first Roentgen-ray examination. This calculus was forgotten and consequently overlooked at the time of the left nephrectomy. Infection of the right kidney took place, pyonephrosis developed, and complete anuria occurred suddenly three years later. Anuria was complete for three days, and was due to the plugging of the ureter with pus. Renal retention was partially relieved by massage of the kidney and along the ureter, thus dislodging the plug of pus filling the ureter. Anuria again developed and nephrotomy of the remaining kidney was done. This kidney was greatly distended with urine and pus. No stone was demonstrated by the Roentgen ray and none was found at operation. The parenchyma formed a mere shell of tissue less than 1 cm. thick. Recovery was prompt and complete. Since the operation the patient has passed one stone and another has been removed from the bladder by litholapaxy. The skiagraph now shows a stone in the left ureter of the same shape, size and location as shown in the plate taken three years ago. Normal peristalsis was observed in this ureter three years after the complete removal of the corresponding kidney.

120. **Operation for Stiffening Knee-Joint.**—Hibbs believes that the knee-joint has not been stiffened frequently enough, especially among the classes of people seen in the dispensaries, who are, in most instances, wage-earners, and the necessity of wearing some kind of brace permanently is troublesome and expensive to them. This is probably due to the fact that attempting to stiffen this joint by the old method of doing practically an excision has not been very successful. In the first place, the removal of a sufficient amount of cartilage from the femur and tibia to secure bony surfaces for approximation shortens the leg about 1½ inches, which, with the shortening already present in these cases, is a serious consideration. And in the second place, the removal of the ligaments makes difficult the prevention of deformity during the long period, a year or more, before there is solid bony union. This led Hibbs, on Jan. 15, 1909, to perform an operation which obviates these disadvantages. It was that of mortising the patella, after it was denuded of its periosteum and cartilage, into a space prepared for it by the removal of the cartilage, just anterior to the center of the tibia and femur. Such a space may be secured without injury to the crucial ligaments or to the epiphysis of either bone. With the patella in this position, a perfect bony bridge is thus formed between the tibia and the femur. The patella in the first three cases was put in transversely, and in the next four horizontally. In all these cases, in from five t six months there was solid bony ankylosis, which has bee maintained a sufficient length of time since the removal of th support to consider it permanent.

It then occurred to Hibbs, that if the patella were place horizontally in a space prepared for it, and then if the perios teum were carefully preserved in its removal from the patell and brought down over the freshened area and stitched to th periosteum around the edges of the tibia and femur, ther would be reproduced from this periosteum new bone, so tha the bony bridge would be larger and stronger. In the last thre cases, this procedure has been adopted, and in each case ther has been a reproduction of bone from this periosteum, as ha been unmistakably shown by skiagraphs. The advantages o the latter procedure are obvious. In the first place, there i less likelihood of the patella slipping out of its bed, and i the second place, there is secured, through the reproduction c new bone, a larger and stronger bony ridge, and the weigh may be safely borne on the leg earlier with advantage, an all support removed sooner.

121. Abstracted in The Journal, Jan. 14, 1911, p. 140.

Albany Medical Annals

March

122 Experiences with Salvarsan. W. S. Gottheil, New York.
123 When Should the General Practitioner Measure the Bloo Pressure? T. C. Janeway, New York.

West Virginia Medical Journal, Wheeling

March

124 *A Remarkable Case of Hysteria. T. Diller, Pittsburg.
125 Social Hygiene and the Physician's Relation Thereto. J. Irons, Elkin.
126 Ether Anesthesia. R. H. Bullard, Wheeling.
127 Adenoids. P. L. Gordon, Charleston.

124. **A Case of Hysteria.**—This case was characterized l insane conduct, somnambulism, disordered personality, drear like states and amnesia.

Illinois Medical Journal, Springfield

March

128 Heredo-Syphilitics and Their Detection. A. Ravold, S Louis.
129 Relation of Vasectomy to Eugenics. J. C. Hoag, Chicago.
130 Treatment of Delayed Resolution of Pneumonia. J. M. P ton, Chicago.
131 Diagnosis of Renal and Ureteral Calculi. D. N. Eisendrat Chicago.
132 Bronchoscopy and Esophagoscopy. S. A. Friedberg, Chicag
133 Non-Suppurative Ethmoiditis. G. P. Marquis, Chicago.
134 *An Unusual Case of Combined Extra-Uterine and Intı Uterine Pregnancy. C. D. Center, Quincy.
135 Uterine Myomata and Parturition. C. E. Paddock, Chicago
136 Surgery of the Pleura. O. L. Pelton, Elgin.
137 *Phthisiophobia. F. Tice, Chicago.
138 *Action of Iodin on the Tissues. A. Werelius, Chicago.
139 *Development of the Theory of Hearing. G. E. Shambaug Chicago.
140 Diagnosis of Cancer of the Rectum. C. J. Drueck, Chicago.

134. **Extra-Uterine and Intra-Uterine Pregnancy.**—Cente case was one of combined extra-uterine and intra-uterine pre nancy at the same time, with rupture and removal of tl extra-uterine pregnancy, and both tubes and both ovaries, tl intra-uterine gestation proceeding undisturbed to full term a normal labor.

137. **Phthisiophobia.**—The resident staff of the Cook Coun Hospital has been traced by Tice, and the frequency of tube culous infection determined as accurately as circumstanc will permit. During the period of thirty-three years, fro 1866 to 1909, 376 physicians have served as interns, and ea member, with the exception of the first three, has served period of eighteen months. Until within the last year and half, no attempt was made to segregate the tuberculo patients, but they were cared for in the general wards, n especially constructed for this class of patients, and whe no special precautions were enforced. Of the 376 members the resident staff, three had tuberculosis before their servi four during their service, and thirteen have developed it sin that time, making a total of twenty, of whom six have die Accepting the validity of the preceding statements, Tice thin it is evident that the danger of infection in tuberculosis h been overestimated and exaggerated. As a result, tuberculo

individuals and the public at large have been subjected to great inconvenience and hardship. The medical profession, he declares, should realize the evils of these misconceptions and endeavor to correct them so far as possible; physicians should no longer continue to repeat many of the current stereotyped statements on tuberculosis, but more nearly to approach the truth as indicated by knowledge of recent developments. The nursing profession should be instructed properly and trained in the care of the tuberculous. Since much of the fear of tuberculosis has resulted from the educational efforts of the various antituberculosis organizations, it becomes incumbent on them to continue their efforts and assist in diminishing this evil.

138. **Action of Iodin on Tissues.**—The main object of Werelius' research was to ascertain the action of iodin on the healing process of wounds. For this purpose, two wounds were inflicted on the back of dogs on each side of the spine, treating one with, and the other without, application of iodin. The wound treated with iodin always healed much more slowly than the wound not so treated. In the experiments tincture of iodin was used.

139. **The Theory of Hearing.**—Shambaugh believes that the membrana basilaris is physically incapable of performing the rôle of a vibrating mechanism, and, furthermore, that the membrana tectoria must be this mechanism. Just how the membrana tectoria responds to the impulse of sound waves is largely speculative since this is beyond possibility of actual demonstration. His conclusions regarding the manner in which the structure responds is arrived at by assuming that manner of response which best explains the various phenomena associated with sound perception both in the normal physiology of hearing and in the phenomena associated with diseases of the labyrinth.

Journal of Cutaneous Diseases, New York

March

141 *Infectious Eczematoid Dermatitis. Possible Influence of Anaphylaxis in Skin Reactions. J. A. Fordyce, New York.
142 A Case of Frambesia. C. J. White and E. E. Tyzzer, Boston.
143 Mycosis Fungoides in the Negro. E. R. Strobel, Baltimore, and H. H. Hazen, Washington, D. C.
144 Exposure to the Sun as an Etiologic Factor in Alopecia. G. F. Harding, Boston.

141. **Infectious Eczematoid Dermatitis.**—In observing a large number of cases of dermatitis, Fordyce has been struck by the frequency with which forms of skin infection, usually diagnosed as eczema, have been secondary to some antecedent lesion or disease of the skin, such as scabies, wounds or traumatisms which have become infected, abscesses, furuncles, intertrigos, sinuses left after operation on bones, etc. In other words, the percentage of eczemas which were not preceded by some antecedent pathologic condition seemed to be in the minority. At times, when the eczematous and pyogenic processes have coexisted, it has been difficult to determine which condition was the primary one. On the other hand, when eczema and furunculosis were coincident, it was learned, on making inquiry of the patient, that the furuncles had in many cases antedated the outbreak of eczema. In addition to cases resulting from a purulent discharge or skin infection, Fordyce has noted others in which one or more scaling patches of dermatitis present for an indefinite time suddenly assumed an acute inflammatory reaction and spread by continuity or independent foci to other parts of the body. He believes that those cases belong to the group described under the name of infectious eczematoid dermatitis, and that irritation of the skin produced by discharges from abscesses, sinuses, ulcers and other pus-secreting surfaces is the true basis of these phenomena. In certain of these cases, the outbreaks occur at a distance from the primary focus and are not to be explained on the ground of autoinoculation or direct conveyance of the irritant substance. These cases, Fordyce would claim to be due to anaphylaxis.

Medical Fortnightly, St. Louis

March 10

145 Relation of the Eye to the Nervous System. E. E. Clark, Danville, Ill.
146 Ileus Paralyticus Relieved by Operation. C. W. McElhaney, Greenville, Pa.
147 Pneumonia. G. L. Servoss, Fairview, Nev.

American Journal of Physiology, Boston

March

148 The Physiology of Regeneration. Regeneration of Isolated Segments and of Small Pieces of Worms. S. Morgulis, Boston.
149 *Influence of Cold Baths on the Glycogen Content of Man. G. Lusk, New York.
150 Nuclein Metabolism in the Dog. P. A. Levene and F. Medigreceanu, New York.
151 *Effects of Various Forms of Exercise on Systolic, Diastolic and Pulse Pressure and Pulse Rate. O. S. Lowsley, Baltimore.
152 Does Dextrose Arise from Cellulose in Digestion? G. Lusk, New York.

149. **Influence of Cold Baths on Glycogen Content of Man.**—In order to determine whether cold baths will not completely remove the glycogen content of a man, two individuals who had accustomed themselves during the summer to a swim of fifteen minutes' duration in the early morning in cold water, and who took daily cold douches as a matter of routine at other times, submitted themselves in the morning (without breakfast) to the action of two baths, each of from six to ten minutes' duration. The water contained floating ice blocks and had a temperature of 10 C., the baths being given at intervals of about two hours. The treatment was effective in exhausting the glycogen supply. Lusk concludes that immersion of normal men in cold baths at a temperature of 10 C. when the intestine is free from carbohydrates, induces shivering which causes a rapid utilization of body glycogen as determined by a fall in the respiratory quotient to the fasting level. In one very muscular individual this result could not be obtained. In one individual in whom the shivering had been severe, a quotient of 0.67 and anotner of 0.62 were found during subsequent periods of rest, which correspond to those observed during rest after a period of exhaustive exercise (glycogen formation from protein). The greatest increase in heat production which was brought about by the cold baths was 181 per cent. above the normal. The urine remained free from albumin and from sugar.

151. **Effects of Various Forms of Exercise.**—The conclusions to be drawn from Lowsley's experiments are as follows: All types of prolonged exercise which cause an increase in pulse rate cause also a rise in systolic and diastolic pressures. The systolic pressure shows the greater rise; hence there is an increase in pulse pressure, which may be interpreted to mean that the heart beats are augmented as well as accelerated. After all types of exercise studied, the systolic, diastolic and pulse pressures invariably fall below normal and remain in this subnormal condition for a considerable time. The more exhaustive the nature of the exercise, the longer will be the subnormal period which follows. Systolic pressure invariably falls more rapidly than diastolic, and hence the pulse pressure becomes weaker. Pulse rate, which always increases during exercise, decreases rapidly after its completion. Rapid exercises (vigorous, fatiguing and exhausting) are followed by a fall of pressure below normal which lasts longer than after moderate exercise, even if the former is continued only for a very short period and the latter for quite a long period of time. If Lusk's interpretation of the subnormal phase is correct, it would follow that the so-called field events, consisting of jumping, shot putting, discus and hammer throwing and baseball, gymnasium apparatus work, and exercises of a similar nature, are preferable to rapid exercises such as basketball, football and running races. This is particularly true in the case of the rapidly growing youth, whose heart is under the additional demand of keeping pace with an increase in the tissue mass of the body. There is less strain put on the circulatory system by walking a number of miles at a moderate rate than by sprinting 100 yards at top speed. Long-distance races and similar forms of exhaustive exercise give rise to a serious strain on the heart, as is indicated by the long period of subnormal blood-pressure.

Woman's Medical Journal, Cincinnati

March

153 A Review of the Treatment of Sterility. M. D. Rushmore, New York.
154 Cholera and Typhoid. M. S Macy, New York.
155 Relation of Women in Industry to Child Welfare. I. Smart, New York.
156 Economics of Development. J. M. Taylor, New York.

Journal of the Medical Society of New Jersey, Orange

March

157 Podalgia and Flat-Feet. H. J. Bogardus, Jersey City.
158 Appendicitis and Its Moving Pathology. G. K. Dickinson, Jersey City.
159 Prevention of Peritonitis. E. W. Hedges, Plainfield.
160 Care of Fractures. W. H. Lawrence, Summit.
161 Intussusception. T. W. Harvey, Orange.
162 *A New Technic in the Use of Forceps. M. A. Swiney, Bayonne.
163 An Appeal for Inquiry Beyond the Isms of the Times. H. Chevanne, Salem.
164 Fermentation and Putrefaction. L. F. Bishop, New York.
165 A Case of Splenomyelogenous Leukemia. G. Knauer, Elizabeth.

162. **New Technic in Use of Forceps.**—The indications for the technic described by Swiney are: Vertex presentations, or convertible vertex presentations with no engagement, when there is no great disparity between head and inlet. The principal points in the method are the Walcher position, forceps application at the beginning of a pain and withholding the anesthetic until the head is properly forced into the brim. This plan should not be tried until the os is fully dilated and sufficient time should always be given for Nature to do her best. In using the Walcher position, the toes should not touch a chair or the floor during a pain. An assistant must hold the patient by the shoulders to keep her on the table. During the interval an assistant should hold up her legs, as it is more comfortable for the patient.

Chicago Medical Recorder

March

166 New Problems in Treatment of Cancer. C. Wagner, Chicago.
167 Active Immunization in Tuberculosis. H. J. Achard, Chicago.
168 Elements which Make Success or Failure in Surgical Work C. W. Barrett, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

March 4

1 *Mediastinal Affections. P. Kidd.
2 Immunity Reaction in Diagnosis, Especially of Tuberculosis and Syphilis. W. d'E. Emery.
3 *Mechanical Treatment of Spinal Caries. H. J. Gauvain.
4 Education of the Deaf. M Yearsley.
5 *A Case of Suprarenal Apoplexy. R. Waterhouse.
6 Cranial Asymmetry Due to Postural Causes. H. Armstrong.
7 A Case of Rodent Ulcer of the Thigh. H E. Friend.
8 A Case of Retention of Urine. G. W. Bury.
9 Infantile Diarrhea. W. Tibbles.
10 Bone-Setting and Its General Principles. F. Romer.
11 Twin Scissors for Twin Sclerotomy. N. B. Harman.

1. **Mediastinal Affections.**—Nine cases are reported by Kidd: Case 1. Substernal thyroid tumor simulating a mediastinal new growth; operation, recovery. Case 2. Mediastinal cyst (? dermoid); operation; recovery. Case 3. Mediastinal abscess perforating the trachea and esophagus and causing subcutaneous emphysema and cellulitis; temporary relief following bleeding; death. At the necropsy the left pleura was found to contain 1½ pints of brownish turbid fluid, the lung being collapsed and covered with recent greenish lymph. Both lungs contained numerous miliary abscesses. In the esophagus opposite the bifurcation of the trachea there was a flat oval fibroma measuring 1x⅔ inch, and just to the left of the tumor a small smooth-edged opening led into an abscess cavity at the bifurcation of the trachea. There was also acute recent pericarditis. The disease appeared to have originated in the subtracheal lymphatic glands, whether as the result of tuberculosis or some other cause could not be determined. Case 4. Mediastinal growth masked by pericardial effusion; death. At necropsy the mediastinal glands in front of the trachea and bronchi were found to be infiltrated with a firm whitish-yellow growth forming a mass of about the size of a duck's egg, not occluding or narrowing either bronchus, trachea or esophagus. There was a small nodule of growth in the upper lobe of the left lung. Case 5. Mediastinal growth masked by pleural effusion; death. At necropsy a large pleural effusion was found on the right side and turbid fluid with flakes of lymph. The trachea and the root of each lung were embedded in a large whitish growth extending widely into the lower lobe of the right lung. The esophagus and large veins were not involved. Case 6. Tuberculosis of mediastinal glands followed by pleurisy with effusion; recovery for some years; death from tuberculous meningitis. Case 7. Tuberculosis of mediastinal glands compressing the right bronchus; recovery. Case 8. Tuberculosis of mediastinal glands involving the lung by direct infection through the bronchi. The case progressed slowly downward, the chief features being remittent pyrexia, loss of flesh and slight cough. Signs of consolidation gradually spread up toward the apex of the right lung, râles and rhonchi appeare over both lungs, and the patient died from tuberculous meningitis. At necropsy large caseous glands were found in the anterior mediastinum and beneath the fork of the trachea The right bronchus was perforated by the caseous glands in two of its divisions—the branch to the middle ear and the branch to the lower lobe. The middle lobe of the right lung was converted into a large caseous mass. In the upper lobe there were a limited fibrosis and a small cavity. Both lung were studded with miliary tubercles. There was tuberculou meningitis. Case 9. Tuberculous abscess of bronchial glands bronchopneumonia simulating acute tuberculosis; death from septicemia.

To determine whether bronchial breathing, like bronchophony, is heard about the seventh cervical, and three or fou dorsal upper vertebræ in a great number of healthy persons especially in those that are thin, in women and children Kidd examined fifty-one patients consecutively. The only patients excluded were such as had consolidation of the lung of any kind, pleural effusion, or any evidence of tuberculou or other glandular disease in any district of the body. O these fifty-one patients, thirty-three showed bronchial breathing or pectoriloquy over the seventh cervical and upper dorsa spines, usually the first and second. In twenty-two cases both bronchial breathing and pectoriloquy were present; in eleven cases either bronchial breathing or pectoriloquy alone. In eighteen cases the results were uncertain or negative. Mos of the patients who gave positive results were spare or thin but not all, a notable exception being a man weighing ove 210 pounds, the subject of a cerebral tumor. Among the positive cases nineteen were male and fourteen female; age: unde 10 years, seven cases; 10 years and over, twenty-six cases Kidd feels persuaded that we may expect to find bronchia breathing and pectoriloquy over the upper dorsal spines in many healthy people.

3. **Mechanical Treatment of Spinal Caries.**—Gauvain discusses mechanical treatment during recumbency only.

5. **Suprarenal Apoplexy.**—The history of Waterhouse' patient, a boy aged 8 months, was as follows: throughout the morning the child had been very drowsy and had "looke strange," but had not seemed to be in pain; he had take nourishment readily, and the bowels had acted as usual. Abou 3 o'clock in the afternoon he vomited. Previously the chil had always seemed perfectly healthy. He had been breast-fe until three weeks before admission, when a mixture of cow' milk and water was substituted. The infant was obviousl very ill: complexion gray, eyes dull, breathing rapid, shallow and noiseless; temperature 100.4 F., pulse 140, and respirations 72. Râles could be heard all over the chest, especially at the bases behind. The abdomen was soft and not tender There were no signs of meningitis, and nothing abnormal wa to be seen in the mouth or fauces. Two hours after admission an extensive eruption of purple spots and blotches appeared over the whole trunk, upper arms and thighs. The temperature had fallen to 99.4 F. The child rapidly grew worse, the face became cyanosed, and death occurred four hours afte admission. There were no convulsions throughout.

The post-mortem examination was made twenty-two hour later. The suprarenal capsules were striking objects even before their removal from the body; of little more than norma size for a child of this age, they were both of a deep purple color and evidently the seat of hemorrhage. The extravasation of blood had taken place into both the cortical and medullary portions, but no bleeding had occurred into the adjacent tissues. Microscopically, the structure of the medulla was seen to be completely destroyed and replaced by effused blood. The arrangement of the columns of cells in the cortex could be made out, but the cells themselves had largely disappeared, their nuclei alone remaining, while everywhere were to be seen large numbers of red corpuscles. All the other organs appeared natural. Cultures taken from the adrenals, from the spleen and from the cerebrospinal fluid all proved sterile. No microorganisms could be detected in films made from the cerebrospinal fluid and from the interior of the suprarenal capsules.

Medical Press and Circular, London

March 1

12 Medicinal Treatment of Uterine Hemorrhage. R. Asch.
13 History of Mummification. G. E. Smith.
14 Indications for and Technic of Cesarean Section and Its Alternatives in Women with Contracted Pelves Who Have Been Long in Labor and Exposed to Septic Infection. A. J. Routh.
15 Therapeutic Use of Radium. W. H. B. Aikens and F. C. Harrison.

Australasian Medical Gazette, Sydney

January

16 *The "Presystolic Murmur." J. M. Gill.
17 Diagnosis of Intra-Uterine Pregnancy in the Earlier Months. J. K. Couch.
18 *[illegible] Bacillus Typhosus (Eberth Gaffky) and (Flexner). B. Bradley.
19 [illegible] Genitalia with Pregnancy, Resulting in the Birth of Unequal Monochorial Twins. T. G. Wilson.
20 *A Plea for the Early Diagnosis and Treatment of Incipient Phthisis by Tuberculin. E. Ure.
21 Kyoomba Sanatorium for Treatment of Tuberculosis. H. Shaw.
22 Aspects of Tuberculosis in Man and Animals. J. B. Cleland.
23 Congenital Dislocation of the Hip, Treated by Lorenz's Method and Its Etiology. T. and P. Fiaschi.

16. **Presystolic Murmur.**—The presystolic murmur consists of a series of sounds following each other in rapid sequence, the murmur being sometimes short and at other times prolonged. When short, it resembles a reduplicated second sound at the apex; on the other hand, it may occupy the whole of a prolonged diastolic period, being frequently a half a second or even a full second in duration. Cardiograms taken by Gill show, he says, that the vibrations, which when palpable form the thrill, are really continuous during the whole cardiac cycle, and are always present, whether the presystolic murmur be audible or not. These vibrations are often best obtained from an area well over the right ventricle—that is, internal to the nipple line, a little above the level of the nipple. They vary in rate as a rule from about seven or eight a second to ten or twelve, and can be recorded in a variety of pathologic conditions apart from mitral stenosis, and are therefore not peculiar to it. Although these rapid movements are frequently encountered in cardiograms, yet in venous pulse records they are only occasionally present. In jugular tracings from cases showing a continuously irregular pulse, they are often well marked during long diastolic pauses and are now generally recognized as being due to fibrillary contractions of the auricle. They can often be obtained in cardiograms from these cases.

The presystolic murmur is not, Gill says, necessarily dependent on contraction of the auricles. It is occasionally associated with an irregular pulse. The right auricle is the seat of regularly occurring vibrations, yet there is no proper contraction as shown by the venous pulse; the left auricle, as shown by the presystolic murmur and the apex tracings, shows similar movements; the ventricular contraction is continuously irregular. Research by means of the string galvanometer, has shown clearly that in all cases of persistent irregularity similar vibrations are always present; these vibrations have therefore undoubtedly a muscular origin, and further arise in the right auricle. The string galvanometer shows usually in cases with presystolic murmur, a double-peaked wave; sometimes the wave has three peaks, at other times four. The explanation is that these waves are due to independent contractions of the sinus venosus tissue in the right auricle, and to a much less degree in the left auricle. In the course of development the two auricles absorb the sinus venosus. It is still uncertain what part of the auricles is derived from the sinus venosus; in the right auricle, probably that portion lying between the mouth of the superior vena cava above and the inferior vena cava and coronary sinus below, together with the adjacent part of the inter-auricular septum; in the left auricle the opening of the pulmonary veins, which have been observed occasionally to be capable of independent muscular contraction. We thus have a perfectly simple explanation of the presystolic and other diastolic apex murmurs. Vibrations occurring in the left auricle are rendered audible at the apex, by the fact that the blood in the auricle is under tension; the movement of the blood transmits these audible vibrations to the apex.

Gill points out that any explanation of the presystolic murmur must explain its proper relation to contraction of the left auricle. There is no doubt of the almost absolute association of contraction of the left auricle and the presystolic murmur, but there are a few exceptions. Such exceptions show that contraction of the auricle properly so called is not essential to the production of the presystolic murmur. The explanation seems to be that the sinus venosus movements involve only a small part of the muscular wall of the left auricle particularly; hence, a certain degree of tension being necessary for the production of sonorous vibrations, these movements are lost in the flaccid membrane, till the contraction of the auricle proper commences. The necessary degree of tension in the auricular wall may be present when the muscular tissue of the auricle is good, the obstruction being yet considerable: in that case, the auricular wall would be in a constant state of tension. Gill has seen three such cases in three years.

18. **Identification of Bacillus Typhosus and Bacillus Dysenteriæ.**—For the differentiation of these bacteria, Bradley uses plates of simple agar. Next day a number of colonies, at least ten, if possible from twenty-five to fifty, are picked off from the plate directly into lactose litmus peptone water. Next day those tubes showing an acid reaction are thrown out, leaving only the non-lactose-fermenting orgahisms. Some (at least six) and preferably all of these are then inoculated into mannitol litmus peptone water, saccharose litmus peptone water, sorbitol litmus peptone water, litmus milk, peptone water and gelatin, and films are made and stained by Gram's method. If next day any cultures, which by films are shown to be Gram-negative bacilli, give acid on mannitol and sorbitol and *nil* on saccharose and slight acidity on litmus milk, the agglutination reaction of one or more may be tested. If this be positive, in a dilution approaching the titre of the serum for control standard culture, the provisional diagnosis of *B. typhosus* may be made, but a week at least should be given before the diagnosis can be certain, after which the milk should remain very slightly acid and not clotted; the peptone water should become turbid and give no indol reaction, and the gelatin remain unliquefied.

For most practical purposes, Bradley believes that the following is a sufficiently good definition of typical *B. typhosus:* a Gram-negative bacillus, non-gelatin liquefier in seven days, non-lactose fermenter, non-saccharose fermenter, giving acid (without gas) on mannitol and sorbitol, very slight permanent acid without clot on litmus milk, and no indol reaction on peptone water in seven days. If these characteristics are all presented, Bradley has no hesitation in pronouncing the organism *B. typhosus.*

20. **Treatment of Incipient Phthisis by Tuberculin.**—Ure reports most encouraging results from the use of Koch's old tuberculin, commencing with very small doses and gradually increasing until extraordinary toleration to the toxin is established, active immunization being at the same time produced, which induces steady improvement in the patient's condition.

Dublin Journal of Medical Sciences

March

24 *A Case of Myasthenia Gravis. T. G. Moorhead.
25 *Epidemic Pneumonia. A. J. Powell.
26 Congenital Fistulas. J. H. P. Boyd Barrett.
27 Influenza. J. F. Clarke.

24. **Myasthenia Gravis.**—The essential symptoms of myasthenia gravis consist of paralysis of the voluntary muscles, more especially those supplied by the cranial nerves, varying in intensity and persistence, but usually more marked after muscular effort, and accompanied by a peculiar myasthenic reaction when the muscles are stimulated by the faradic current. Among the most common paralyses are those of the

ocular muscles, including the orbicularis palpebrarum and the levator of the upper eyelid, the lip muscles, those of the tongue and those of the neck; but in severe cases almost all of the muscles of the body may be involved. The paralysis almost invariably tends to increase when the affected muscles are used, so that at the beginning of a conversation the lip and tongue muscles may be used fairly well, but after a few minutes they become weakened, and soon may become so completely paralyzed as to be hardly capable of being made to contract at all. The appearance presented by the patient is strongly suggestive of the existence of some lesion of the nervous system. Moorhead's patient, on the eleventh day, was attacked with sudden dyspnea and cardiac failure, became quite unable to speak or swallow, and died in a couple of hours. The case was typical; however, there was marked atrophy of the gluteal muscles, the deltoids, and of the tongue, inasmuch as absence of atrophy was at one time regarded as an important diagnostic sign.

The post-mortem findings in this case were as follows: the thymus was persistent, and possessed two well-defined lobes extending down over the pericardium; microscopically it was normal, but contained no eosinophil cells. The thyroid was somewhat enlarged, and microscopically was more cellular than normal. The kidney was slightly congested and showed parenchymatous changes; both ovaries were enlarged and cystic. The other viscera, including the red marrow and pituitary body, were normal microscopically and macroscopically. The spinal cord, the medulla, the pons, the central nuclei and the cortex in the Rolandic region of the brain were normal. Macroscopically, the brain and spinal cord were normal. As regards the muscles, sections were made from the levator palpebræ superioris, the masseter and the pectoralis major, and in all Moorhead examined over 400 sections. The masseter and pectoralis major appeared to be normal, with the exception of one doubtful lymphorrhage in the pectoralis. The collection of cells, however, in this particular instance was found not between the muscle fibers but in the interstitial connective tissue. In the levator palpebræ some atrophy of muscle fibers was noted, marked proliferation of sarcolemmal nuclei was present, and in many of the sections scattered uninuclear cells with rounded nuclei were found between the muscle fibers. Nothing at all approaching in appearance, however, to the lymphorrhage, as figured by Buzzard, was found, and after a most careful search in three of the muscles of a very typical case, Moorhead feels inclined to throw doubt on the universal presence of lymphorrhages in the muscles of myasthenic cases.

25. **Epidemic Pneumonia.**—This epidemic recorded by Powell occurred in April and May, 1909, in the village of Penn, near Wolverhampton, Staffordshire, England. The patients came from the smaller cottagers in the village with the exception of the first, who came from about one mile outside the village. The number of recorded cases was nine. The number of deaths was seven. The cases can be divided into two series, in each of which a clear history of direct infection from case to case was manifest. In the first group there were four cases and in the second three. The remaining two occurred sporadically, but were both attended by the district nurse who had attended some of the other cases. Beyond these significant facts no clearer history of infection could be obtained in the last two cases. The type of disease was characterized by great cardiac depression, cyanosis and dyspnea at the outset with but few local physical signs. The number of cases attended by other practitioners in the immediate neighborhood during this time was considerable, but accurate information cannot be obtained either as to their numbers or the type of the disease or the nature of the infection. Only two of Powell's patients recovered, both children, one aged 14, the other 6. All the adults died, making a mortality of 77.7 per cent.

Glasgow Medical Journal

March

28 What Are We Doing to Combat Infant Mortality? L. Findlay.
29 Recent Advances in Hematology. W. K. Hunter.
30 *An Unusual Complication of Measles. A. J. Couper.

30. **Unusual Complication of Measles.**—In Couper's case a fairly well-marked and typical measles eruption was present, and involved the whole skin area. Coryza and conjunctival suffusion were mild. The patient was a well nourished chil but flabby. The heart sounds were soft. Pulse was of lo tension. Mucous râles were present, and were heard over bot lungs, anteriorly and posteriorly. These were most numero and were of finer quality at the right base behind. No dulne was detected, and the respiratory murmur was nowhe impaired. The case ran the usual course. The rash becan brighter and the temperature rose on the fifth day of illnes the former began to fade on the ninth day of illness. Wi the fading of the rash, the temperature rose to 102 F., whi pulse and respirations numbered 140 and 60 respectivel From this somewhat high register there was a drop of tempe ature, which occupied three days, the temperature being n mal on the twelfth day. During this period there was alteration in the chest condition. On the sixteenth day, t temperature again rose to 102 F. This was accompanied an increase in pulse-rate to 136, and in respiration-rate to Next day temperature was 97.6 F. The dorsum of the rig hand was found to be swollen and edematous. Circulation the part was good, and there was no discoloration. No p or tenderness was present in any part of the limb. On t following day the swelling was much increased, involving t palm and extending up the wrist. The terminal phalanx each digit had become cyanosed, and the circulation in t fingers was very sluggish. By the nineteenth day the swelli had become pronounced. The whole of the right arm, toget with the inner wall of the axilla, was affected, and these pa were distinctly edematous and very tense. The limb was c to the touch and mottled (of a purplish color), while extremities of the digits were black. With this increase swelling, temperature rose to 103 F.; pulse, 138; respiratio 40. Crepitant râles were heard at both bases posteriorly, no dulness was detected. On the twentieth day the swell was still further increased, the limb and the inner wall of axilla had assumed a much deeper and more uniform tint, numerous ecchymoses and bullæ, containing a sero-sangui lent fluid, were observed. The child died on the twenty-fi day of his illness. Two days after death a post-mortem exa ination was made. In the subclavian vein, about half an i from its proximal extremity, was a firm clot, which exten for an inch backward, and was adherent to the wall of vein. Attempts to grow cultures from the clot failed.

Journal of Laryngology, Rhinology and Otology, Londo

March

31 Reports for 1909 from the Ear and Throat Department of Royal Infirmary, Edinburgh. W. T. Gardiner.
32 The Wire Saw in the Radical Operation on the Middle V. S. Stein.
33 Injuries of the Head and Nasal Diseases. C. Ziem.

Clinical Journal, London

March 1

34 Nervous Exhaustion. W. H. B. Stoddart.
35 Historical Notes of Plague. F. M. Sandwith.
36 Significance of Sphygmomanometric Readings. F. Humphris.

Bulletin de l'Académie de Médecine, Paris

February 14, LXXV, No. 7, pp. 177-216

37 *Malta Fever. (A propos de la fièvre ondulante.) R. Bla ard.
38 Abortive Treatment of Syphilis. E. Gaucher.
39 *Institutes for Infant Welfare. (Des Instituts de puéricult après la naissance.) A. Pinard.

37. See Paris Letter in The Journal, March 11, p. 755.

39. **Infant Welfare.**—Pinard describes the workings of institution at Paris for infant and child welfare and u the organization of similar institutes of puericulture in ot cities. The institute serves as an object lesson in the of young children and the means to avoid epidemics.

Bulletins de la Société de Pédiatrie, Paris

January, XIII, No. 1, pp. 1-64

40 *Insufficiently Fed Infants. (L'hypoalimentation ch risson.) Nageotte-Wilbouchewitch.
41 Sclerosis a ongue from Inhe ilis in T n.
42 *Methylene of Age of Milk. (Appr tion rapi d'un lait.) H. Bertin-S and E. Gaujoux.
43 *Criteria of Normal Stools. (Physiologie digestive et copr gie.) H. Triboulet.

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44 Varicella with Adenopathies, Torticollis and Initial Pruritus. (Trois particularités au cours de la varicelle.) P. Merklen.
45 Verrucous Tuberculosis of Leg After Lesion of Metatarsus. A. Trèves and G. Schriber.

40. **Insufficiently Fed Nursing Infants.**—Nagcotte confirms Merklen's statements (mentioned in these columns March 4, ᵕe 702), that mothers often take too literally the directions of their medical attendants in respect to overfeeding their children and go to the other extreme. This is particularly the case, she has found, among the young mothers in the student quarter of Paris, progressive women, solicitous for the welfare of their infants, whom yet they are scientifically starving. These women are not so good nurses, to begin with, as the less nervous women of the uneducated classes. She remarks that this hypoalimentation is an artificial vice, of exclusively medical origin, and the babies are all against it, so that it can soon be suppressed if its presence is once recognized. The trouble is that when the infant vomits repeatedly, this being a characteristic symptom of the lack of sufficient nourishment, the tendency is to reduce the ration still lower. Another characteristic sign of insufficient nourishment is that the infants try to put both hands in the mouth and suck the fingers hungrily. All this, she remarks, teaches anew that medicine cannot be reduced to mathematical formulas; rules valuable for full-breasted, robust women cannot apply to frail nervous women more or less exhausted by privation and study.

[G. Variot reiterates that the signs of overfeeding and of insufficient feeding frequently have features in common, especially repeated vomiting and distended abdomen. It would be a great mistake, he emphasizes in a recent communication on the subject published in the *Bulletins de la Soc. Méd. des Hôp.*, to regard big-bellied infants as necessarily always overfed; frequently the abdominal ectasia, as he prefers to call it, is the result of swallowing of air as the child sucks in its vain effort to obtain enough nourishment. There is generally a marked disproportion between the size and the weight of such underfed children, and the Roentgen rays may show the distention of stomach and intestines with air. The little body floats lightly on the surface of water if the head is sustained with one finger. When the children are given sufficient nourishment the abdomen promptly subsides to the normal aspect.]

42. **Test for Age of Milk.**—A colored plate shows a color reaction obtained with milk too old to be sanitary for infants. The technic for the test is rapid and simple. Two stains are required: a 1 to 4,000 solution made by dissolving 0.25 gm. of methylene blue in 1 liter of distilled water; and a second solution made by dissolving 0.25 gm. of fuchsin rubein in 50 c.c. of alcohol and then diluting to 1 liter. To about 20 c.c. of the milk to be examined are added 3 drops of the fuchsin solution and 5 drops of the blue solution. The test-tube is plugged with cotton and placed in water in the water-bath and heated to about 38 or 40 C. The color gradually changes om the first ash-grey tint to a lavender and then to pink, rom decoloration of the blue. The change of tint occurs the more rapidly the older the milk; if the change occurs in fifteen minutes the milk is too old to use; if the color reaction occurs in three quarters or an hour, the milk is too old for infants and the sick, and the milk should be *regarded as suspicious* when the change of tint is observed in less than an hour and a half. The test is based on the *presence of reductase* in the milk, the reductase being the consequence of the development of microorganisms. Negative findings may not be conclusive, the authors state, but positive findings *may* be relied on.

43. **Criteria of Normal Stools.**—Triboulet has long been insisting that simple inspection of infants' stools is inadequate for proper estimation of conditions, while comparison of the explana with the acetic-acid test gives an instructive over- action the digestive functioning. With a normal stool, the to a m of the test-tube form a homogeneous mixture, developn the top and becoming turbid toward the bottom, is still n being of a peach-flower pink. When digestion is grained sediment settles to the bottom float on top. The litmus reaction should or breast-fed infants and alkaline stools he presence of bile salts is indicated by an immediate red tint in the Pettenkofer test, while the bile pigments under four months show in the green meconium; after four months the stercobilin shows pink; the control test is the fluorescence with zinc acetate. Salts, lactose, casein and fats are not discoverable in normal stools on milk alone, and starch is all digested. Whatever the diet, there should be no red or pink reaction with phenolphthalein as these indicate the presence of blood or of products of fermentation. The acetic sublimate test is made by treating the well-diluted stool, for macroscopic examination, with 8 or 10 drops of the ordinary laboratory solution of 100 c.c. distilled water; 3.5 gm. of bichlorid of mercury, and 1 gm. of acetic acid. About 10 drops of this mixture are added to the diluted stool in a test-tube and the color findings are examined after one hour or up to twenty-four hours at most. Triboulet uses a printed chart to record the findings with the acetic test, in addition to the age, clinical diagnosis, diet, aspect and frequency of the stools, their consistence, odor, color, reaction and the findings with the Pettenkofer, biuret, Lugol and phenolphthalein tests—all the latter tests are negative with normal stools.

Obstétrique, Paris

February, N. S. IV, No. 2, pp. 121-248

46 Structure and Evolution of the Uterine Mucosa. E. Retterer and A. Lelièvre.
47 *Review of the Use of Scopolamin in Obstetrics. P. Lequeux.

47. **Review of Scopolamin in Obstetrics.**—The scopolamin-morphin method of anesthesia for painless labor was originated by Steinbüchel, Lequeux remarks, but Krönig was its apostle and Gauss has been its executive, while Hocheisen denounces it as dangerous for both mother and child, and several other prominent obstetricians share this view. All acknowledge that the method has varying effects, that cases of inexplicable idiosyncrasy are sometimes encountered, and that the same technic is very liable to give very different results in different patients. The work of thirty-one writers on the subject are reviewed. The total number of cases in which it has been applied is 4,619, and this material is tabulated for comparison, showing the percentage of good and bad results for mother and child. Lequeux' final conclusion is that we may feel encouraged to continue cautious clinical research on the subject.

Presse Médicale, Paris

February 18, XIX, No. 14, pp. 121-128

48 *Slight Dilatation of the Bronchi in Children. V. Hutinel.

February 22, No. 15, pp. 129-136

49 Pneumonic Plague. E. Rist.
50 Charts Representing Arterial Tension. A. Martinet.

February 25, No. 16, pp. 137-152

51 *Meningitis and Tabes Dorsalis. J. Tinel.
52 *Treatment of Dread of Emotional Blushing. (La base organique de l'éreuthophobie et son traitement.) P. Hartenberg.
53 Immobilization in Tuberculous Osteo-Arthritis. G. Monod.

48. **Slight Dilatation of the Bronchi in Children.**—In children, mild forms of bronchiectasia may exist which seldom cause symptoms; weeks and months may pass before any functional disturbances can be observed. The bronchiectasia thus escapes detection until some casual infection of the air passages above extends to the dilated bronchial tubes. General symptoms then rapidly develop, sometimes serious, with peribronchial and pulmonary disturbances and signs as of cavity formations. These local phenomena may prove misleading, but correctly interpreted they clear up the diagnosis. The fever is often high, with a wide range, the pulse rapid, and there may be a distressing cough, especially when the temperature runs up. The sputum is purulent but not fetid as in adults, and the dyspnea is generally moderate. The chest may be retracted on one side and the wall less movable, with impaired resonance or actual dulness over the lesion. In the intervals between the exacerbations of the catarrh the râles may subside, but the cough arouses them again. The younger the child the greater the chance of recovery; but every catarrhal affection retards this and increases the tendency to sclerosis of the lungs. Such children should be guarded carefully and particularly shielded from contact with tuberculosis. Differentiation from established tuberculosis is often difficult, but the overrapid development of signs of a

cavity, their location at the base of the lung and absence of tubercle bacilli in the sputum, together with the antecedents should suggest the bronchiectasia.

51. **Meningitis and Tabes.**—Tinel shows in thirteen illustrations the changes in the nerve fibers in the course of any meningitis. The radicular meningitis is seen to be practically the same process in the various infections, tuberculous, cerebrospinal, syphilitic, etc. Ordinary meningitis either speedily heals or progresses to a fatal termination; but in syphilitic meningitis the long chronic course leads to such an advanced stage of the resulting lesions that tabes is the inevitable result. The mechanism of its development is exactly the same, he declares, as in meningitis of any other origin, and it is possible that any toxic-infectious process in the meninges, especially if attenuated and chronic, is liable to reproduce, in whole or in part, the anatomic and clinical picture of tabes, if it has time enough.

52. ***Morbid Dread of Blushing.***—Hartenberg has always found an organic basis for excessive blushing, some physiologic peculiarity creating a predisposition to the emotional reflex. In six cases described in detail the following signs were found: the heart was exceptionally active, the beat powerful, but its rhythm was not accelerated; the carotid arteries were engorged and the head sweated easily; drops of moisture appeared on the brow and cheeks as the individual was speaking. Only one of the patients was a woman, the others were men between the ages of 18 and 32. The cardiac erethism, dilatation and hypotension of the arteries suggest certain symptoms of exophthalmic goiter, and one of the patients had other symptoms of an incomplete form of this disease. Hartenberg conquered the habit and morbid dread of blushing by the galvanic current, which he has found useful in exophthalmic goiter. The positive electrode was applied to fit around the front of the neck, the negative on the back, abdomen or elsewhere; a current of 50 milliamperes was applied for thirty minutes every day at first, then every second day. This electric treatment was supplemented by 2 or 3 gm. of bromid daily, with some restriction of salt. Twenty or thirty electric sittings were generally necessary. Psychotherapy does not remove the cause.

Semaine Médicale, Paris

March 1, XXXI, No. 9, pp. 97-108

54 *Dorsal Percussion of the Heart and Its Application in Interpretation of Grocco's Paravertebral Triangle of Dulness. J. Teissier.

54. **Grocco's Paravertebral Triangle.**—Teissier gives a detailed analysis of the triangular area of dulness close to the spine to which Grocco has called attention as a sign of pleural effusion, and discusses the mechanism responsible for the phenomenon. His conclusions differ from those generally accepted as he ascribes it mostly to dilatation of the right auricle. The resonance of the region involved becomes less when the spine is in contact with a fluid as in pleurisy or with a solid object as in case of encroaching dilatation of the heart or displacement of the mediastinum. Dilatation of the right heart is the most frequent cause, he asserts, and is the main factor in the majority of cases. The sign shows that something is wrong in the cardiopulmonary circulation or that there is inflammation in the subjacent pleura or both. In a case reported in detail, the triangular area of dulness corresponded to the dilated right auricle. The top of the triangle was not quite so high as the surface of the effusion, and it persisted after its subsidence to some extent. Teissier thinks that not enough attention is paid to dorsal percussion of the heart and analysis of the findings.

Archiv für Gynaekologie, Berlin

XCII, No. 3, pp. 607-808. Last indexed March 18, p. 455

55 Behavior of [illegible] of New-Born Infants. (Verhalten [illegible] eschiedenen functionellen Zuständen. des Neugeborenen.) M. Stickel.
56 Fatal Ecla apsia-Like Syndrome in Pregnant Woman at Term, with Primary Melanosarcomas in the Ovaries and Multiple Carcinomas in the Liver and Metastasis in the Placenta. N. Markus.
57 Cyclopean Monster. (Holocardius paracephalus cyclops.) I. Horwitz.
search on the Blood During Pregnancy. (Gehalt des utplasmas an Gesammteiweiss, Fibrinogen und Reststick- bei Schwangeren.) E. Landsberg
59 Ovarian Alveolar Sarcoma. A. Wolff.
60 Diagnosis and Prognosis of Puerperal Infection from Bacteriologic Findings in Blood and Lochia. H. Reibmayr.
61 Experimental Research on Ascending Genital Tuberculosis. P. Jung and E. Engelhorn.
62 Endometritis. O. Büttner.

Berliner klinische Wochenschrift

February 20, XLVIII, No. 8, pp. 325-368

63 *Gastric Ulcer and Pulmonary Tuberculosis. (Magengeschw und Lungentuberkulose.) B. Stiller.
64 *Prostatectomy at Two Sittings. (Erfahrungen mit der zw zeitigen Prostatektomie in Lokalanästhesie.) P. Kayser.
65 Unfavorable Experiences with Sodium Nucleinate in P gressive Paralysis. O. L. Klieneberger.
66 Action of Radium Rays on Inoperable Cancer of the Uter E. Arendt.
67 Experimental Production of Gall-Stones. (Experiment Gallensteinbildung.) D. Klinkert.
68 Action of Serum of Cachectic Patients on Corrosive Sublim Hemolysis. Kentzler.
69 Mydriatic Action of Organ Extracts. A. Bittorf.
70 Relations of Helminths to Tumor Formation. (Beziehun der Acari zur Geschwulstätiologie.) E. Saul.
71 What Paris Does for Children with Bone and Joint Tub culosis. (Die Fürsorge der Stadt Paris für Kinder Knochen- und Gelenktuberkulose.) G. Joachimsthal.

63. **Gastric Ulcer and Pulmonary Tuberculosis.**—Stiller views the various theories in vogue as to the origin of gast ulcer and its frequent coincidence with pulmonary tuberculo and then states his conviction that both can be traced to congenital condition to which he long ago called attention asthenia universalis. This is responsible, he says, for the c ditions which predispose to gastric ulcer on the one hand to pulmonary infection on the other. The form of b peculiar to phthisical subjects, the flat chest, etc., is, reiterates, merely the expression of the asthenia universa and the dyspepsia of the tuberculous is merely the nerv dyspepsia which forms part of the appanage of the univer asthenia. This throws light, Stiller thinks, on Weinber statement that neurasthenia in many cases is a sign of lat tuberculosis; he had noticed that many of his patients who had neurasthenia later became victims of tuberculosis, w the children of tuberculous parents seemed peculiarly prone neurasthenia. The identity of the phthisical and asth- constitutions explains these facts at once. If he had loo about him, Stiller remarks, he would have seen that th are numerous other equivalents of neurasthenia besides tub culosis; dyspepsia, ptosis of various or all the viscera, ato of the stomach, the splashing sound, hyperacidity, etc.— symptoms of the asthenic habitus. Zielinsky found a surpr ingly large number of congenital anomalies in the external internal organs in nearly all of 900 tuberculous cadavers. T asthenia universalis does not necessarily entail tuberculos many healthy individuals are encountered with the narr shoulders, the floating tenth rib, the drooping, exception oblique ribs and the frail skeleton. This demonstrates t this form of body is not the result of existing tuberculosis some have maintained. Stiller adds in conclusion that hygienic-dietetic measures employed in treatment of tub culosis are in reality directed mostly against the underl asthenia.

64. **Prostatectomy in Two Sittings.**—Kayser does not ad cate this as a general rule, but he is convinced that it is p sible to save by two operations, under local anesthesia, a nu ber of patients with prostatic enlargement whom otherwise would be unable to relieve as it would be out of the quest to inflict a single long operation on them, to say nothing of general anesthesia which alone might so easily snuff out spark of life. Most patients with prostatic enlargement are an age when any operation is risky, especially under g or spinal anesthesia. If the bladder can be restored imately to normal conditions by the preliminary oper patient will be much better able to stand the stress operation on the prostate, while the operation in two s materially reduces the danger of infection of the wou another advantage of the two-sitting technic is th ple repose which it imposes on the bladder goes a lo ation ensuring better muscular functioning of that rellary reports the details of four cases in which he Sa tis- principles, with unusually good outco coprole en patients could have survived

Deutsche medizinische Wochenschrift, Berlin

February 23, XXXVII, No. 8, pp. 337-384

72 Rarity of Bovine Tubercle Bacilli in Human Sputum. (Typus der Tuberkelbazillen im Auswurf der Phthisiker.) B. Möllers.
73 *Tuberculosis Infection in Children. F. W. Rothe.
74 *Hyperemia in Pulmonary Tuberculosis. E. Jacoby.
75 Muscular Rigidity of Upper Cl
Tuberculosis. (Vorkommen
tät" im Bereiche des oberen
76 Bronchial Asthma. Pescatore.
77 Precipitin Diagnosis of Anthrax. (Biologische Milzbranddiagnose mittels der Präzipitinmethode.) A. Ascoli.
78 Rapid Bacteriologic Diagnosis of Cholera. G. Pollaci.
79 Salvarsan in Syphilis. N. Z. Joannides.
80 *The Plague. Trautmann and W. Vierhuff.

73. **Tuberculosis in Children.**—The research reported supplements Gaffky's previously reported research on 300 child cadavers. The present article reports examination of an additional hundred. By inoculation of guinea-pigs with material from the bronchial and mesenteric glands tuberculosis was revealed in 19.5 per cent., that is, in 78 of the total 400 cadavers. In forty-two cases both bronchial and mesenteric glands were affected, in fourteen the mesenteric alone and in twenty-two the bronchial alone. In 98.68 per cent. of the tuberculous cases the tubercle bacilli were apparently exclusively of the human type; an unmistakable bovine type was found only in one cadaver. These findings confirm, Rothe remarks, the preponderant importance of inhalation of the germs for the development of tuberculosis in children.

74. **Local Hyperemia in Pulmonary Tuberculosis.**—THE JOURNAL mentioned Jacoby's announcement in 1897 of the advantages of inducing hyperemia in the lungs by lowering the upper part of the trunk. This "autotransfusion," as he called it, flushes the apices and does away with the mechanical conditions favoring the progress of the tuberculous lesion. He uses a special reclining chair in which the entire trunk lies horizontally, the head can be slightly raised, while the legs lie higher than the shoulders. By this arrangement, the pelvis is on a line with the chest, not lower than the chest according to the usual method of reclining. The pelvis can be raised a little higher than the chest by an interposed cushion which supplements the hyperemia induced by the autotransfusion with compression of the base of the lungs by the pressure of the intestines sliding down against the diaphragm. The respiration is more of the costal type, and the lungs are much better ventilated when the trunk is lying flat than when the patient is half sitting up, possibly with the shoulders stooping for-
this actually increases the tendency to anemia of the
le raises the feet higher by an inch each three days,
feet are 18 inches above the level of the head. The
nd that they can breathe more deeply and more
hat expectoration is promoted. Usually the occa-
ins in the chest disappeared during this position
horizontal attitude is not so agreeable for the
up but they soon become accustomed to it
come to appreciate the benefit therefrom.
applied in various sanatoria in Germany
ession seems to be favorable. Muttray
apply it even when there is a history of
, but Jacoby does not go so far as this.

Manchuria and at Odessa.—Trautmann
that plague differs essentially from all
iseases in that it is primarily an animal
more infectious than any other ani-
mate, he says, that healthy plague
It is possible, however, that per-
gue may sow the disease germs
advantage in favor of plague
eing water-borne. The germ is
n spores but, with sufficient
ia, it may live a long time;
ced to garments a year after
He states that in Germany the
exterminated and with it the
nigrating rat (*Mus decumanus*)
lea, the *Ceratophyllus fasciatus*.
ere may not be a primary intestinal form of the plague; in a case at Hamburg plague bacteria were found in the stool for two days. The man recovered. It is important, Trautmann adds, to have trained clinicians, bacteriologists and sanitary officials to handle the plague properly; it may be possible also that meteorologic and geologic factors are involved. He does not think that the statements of the English plague commission in regard to the intermediation of the flea are based on sufficient experience to establish a law; it must be remembered that the conditions were incomparably favorable for positive findings. There is still room for suspicion that some other factors may be involved in transmission of the plague. This is suggested by the experiences at Hamburg: None of the force engaged in exterminating the rats on the vessels from plague-infected ports has ever contracted the disease although many of the Cheopis fleas survived the gases that killed the rats. The men handling them never became infected. The flea theory also seems to be disproved by the "plague houses" in which the plague returns year after year although the inhabitants had fled and the buildings stood vacant for many months. He thinks that the rats surviving the plague would have left the empty house, taking their fleas with them. He has also been impressed by the anatomic differences between the plague rats in India and those arriving at Hamburg.

Vierhuff reviews the reports made by Zabolotny, who has just returned from Manchuria, and Skschiwan of Odessa at the recent public health congress at St. Petersburg. There were 141 cases of plague at Odessa last year; and the cases all occurred in the same blocks and some in the same houses where the last epidemic of plague had occurred in 1902. The bubonic form predominated; generally the glands in the groin were involved, only rarely the axillary glands; only two cases of the pneumonic form were encountered. A local connection with the plague in rats was beyond question, and about 50,000 rats were killed and 60 per cent. examined. The disease is still prevalent in rats there so that the epidemic cannot be regarded as over although no cases have been reported recently. The antiplague measures will have to be kept up for a year at least.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 4, pp. 511-674. Last indexed February 18, p. 547

81 ctric T
über
spezifi
menschlichen Körpers als Gru
des Weges von wärmeerregender
Wildermuth.
82 *Cooling of the Inhaled Air in Ether Anesthesia. ("Ueber Abkühlung der Inspirationsluft bei der Aethernarkose, ihre Bedeutung und Verhütung.") F. Joss.
83 Metabolism of Iron in Myeloid Leukemia Before and After Roentgen-Ray Exposures. R. Bayer.
84 *Clinical Significance of Leukocytosis and Neutrophile Blood Picture in Appendicitis. H. Kohl.
85 *Tardy Fatal Chloroform Intoxication. (Klinischer und experimenteller Beitrag zur Kenntnis des Chloroformspättodes.) A. L. M. Muskens.
86 Congenital and Familial Malformations of the Hands. E. Ebstein.
87 *Infection of Urinary Passages with Colon Bacillus. (Aetiologisches zur Coliinfektion der Harnwege.) C. Franke.
88 Origin of Kidney Calculi. (Kritischer und experimenteller Beitrag zur Frage der Entstehung der Nierensteine.) H. Rosenbach.
89 *Paralysis of Cerebral Nerves in Exophthalmic Goiter. (Ueber Gehirnnervenlähmungen bei der Basedowschen Krankheit.) M. Kappis.

82. **The Local Refrigerating Effect of Ether.**—Postoperative pneumonia has been much reduced in frequency since more care has been taken to prevent chilling the patient's body, but not enough attention has been paid hitherto to the chilling resulting from the local refrigerating effect of the ether inhaled. Joss found that the ether cools the air inhaled through the mask so that it averages 33 degrees F. below the temperature of the room, and the difference may even be 44 degrees during certain phases of the anesthesia. The cooler air chills the air passages, undoubtedly lowering their resisting powers and checking the movements of the cilia of the ciliated epithelium lining them. The ciliary movement is affected by variations in temperature and is entirely arrested at the freezing point. Infectious material is thus liable to find its way more readily into the finer air passages as salivation becomes increased under the influence of the anesthetic. The problem

118. **Gonococcus in the Blood.**—Lofaro found gonococci in the blood in 58.2 per cent. of sixty-seven cases of acute or chronic gonorrheal urethritis; in all the cases of chronic urethritis with stricture; in over 66 per cent. of cases with glandular involvement, in 50 per cent. of the cases of vulvitis and vaginitis, and in over 73 per cent. of the cases of urethritis with epididymitis.

121. **The Wassermann Reaction in Syphilis.**—Gavini has been studying the Wassermann test as applied to 367 syphilitics, seventy suspects and ninety-six healthy persons. The findings show that a negative reaction does not exclude syphilis but that an intense and even a moderate reaction is of extreme diagnostic importance. The subsidence of the reaction under treatment is a reliable index of the efficacy of treatment.

Riforma Medica, Naples

February 20, XXVII, No. 8, pp. 197-224

123 Case of Writer's Cramp with Jacksonian Epilepsy. (Mogigrafia ed epilessia jaksoniana.) E. Morselli.
124 Serodiagnosis of *B Coli* Infection. S. Fichera.
125 *The Diaphragm Reflex. C. Quadrone.

125. **The Diaphragm Reflex.**—Quadrone has been studying the diaphragm reflex in over 2,000 persons and has become convinced that it is a very instructive sign of normal functioning; its absence indicates paresis or paralysis of the diaphragm or neuritis of the phrenic nerve, except in elderly persons and in the very obese, in whom the parts have lost their elasticity or the motor reaction is invisible. The absence of the reflex may throw light, he says, on obscure affections compromising diaphragm functioning, and also on the prognosis in acute infectious disease. The reflex is a physiologic cutaneous reflex, elicited by tickling the tip of the nipple or the areola. This induces a contraction of the diaphragm which is readily perceived as the patient lies on his back, against the light, the head nearly flat, the legs slightly flexed. As the diaphragm contracts the ensiform appendix is drawn inward and sometimes also the inner portion of the costal arch.

Norsk Magazin for Lægevidenskaben, Christiania

March, LXXII, No. 3, pp. 227-416

126 Histologic and Pathologic Study of General Paralysis and Other Psychoses and Organic Disease in Central Nervous System. N. B Grøndahl.
127 *Three Cases of Fat Embolism with Punctate Hemorrhages in the Skin. G. Benestad.
128 Technic for Localization of Foreign Bodies in the Eye, and Their Extraction. (Om Röntgenlokalisation av okulære fremmedlegemer og deres extraktion fra glaslegemet.) S Holth.
129 *Heredity and Degeneracy.* (Kritik av degenerationslæren.) H. Evensen.

127. **Fat Embolism.**—Benestad remarks that no cases of fat embolism are reported except the severe ones with fatal outcome. Most of these cases followed orthopedic operations and fractures. The view is gradually gaining ground, however, that fat embolism is a much more frequent occurrence than formerly was supposed possible. Leading authorities have long insisted on the difficulty of diagnosing it, but in three cases in his practice in the last six months there were puncta-
cutaneous hemorrhages, and he thinks that thisdrome and
reveal the fat embolism in many cases which otfation is the
escape detection. He has been unable to find the necropsy
on record. His patients were workingmen fyfour hours after
old, with fracture of the tibia or femurck under chloroform.
brought almost at once to the hos neck had been removed
impressed with their restlessn half months before. Except
lure of the fracture while thacing glands, the patient was in
goupid. The apathy wa fever and sweats, and nothing was
founaccident and keto explain the *fatality* except the fatty
degenounted to the liver, the pale and loose consistency of
the hearstmuscle and the pronounced degeneration of the kidney parenchyma—these findings being a perfect reproduction of those published in the *reports of the twenty-six cases* on record of tardy chloroform *fatalities*. Muskens is convinced that the tardy effects of chloroform intoxication are more serious than has been hitherto recognized by the *profession* and the laity. Two fatalities from this cause have been observed during the last two years in the course of the [illegible]400 chloroform operations at the Rotterdam city hospital[illegible] the chloroform

cough and the others coughed violently, or in the fatal out
predominant symptom. All complained of lausible to try t
more than at the point of the fracture. Thof fat before a
or blowing over the lungs but here and thistering any oil
could be heard over both lungs at the close or elimination
there was some expectoration; the sputum exa medicines
that of pneumonia in one case. The temperatu was
at first, and then kept at a subfebrile height. The diagno
of pneumonia seemed inevitable when the discovery of
petechiæ cleared up the diagnosis. The punctate hem
rhages in the skin were numerous, and they did not subs
under pressure of the finger. They were disseminated sy
metrically over the sides of the neck, over the chest and p
of the abdomen. The petechiæ disappeared after a week.
cough and expectoration gradually subsided, the temperat
returned to normal, and by the end of the second we ki
patient was well and lively. All the patients re
Benestad says that nothing but the assumption of fat em oit
will explain these cases. The fracture was a simple In
all, without dislocation.

Ugeskrift for Læger, Copenhagen

February 23, LXXIII, No. 8, pp. 253-288

130 Tuberculosis in the Holack District. Klerkgaard.
131 Sulphuric Acid Used in Manufacture of Cereals and Resul Intestinal Disease. K. Isager.

Books Received

Books received are acknowledged in this column and acknowledgment must be regarded as a sufficient return for, courtesy of the sender. Selections will be made for review in interests of our readers and as space permits.

: Markings of the Human Body.
L. B.C., F.R.C.S., Surgeon with Charg
Ou of Practical and Operative Surg
La of Anatomy at St. Bartholomew's
pital. Fourth Edition. Cloth. Price, $2 net. Pp. 90, with
illustrations. New York: Paul B. Hoeber, 1911.

Hughes' Practice of Medicine. Including a Section on Ne
Diseases and One on Diseases of the Skin. Revised and enla
R. J. E. Scott, M.A., B.C.L., M.D., Attending Physician allowed
Dispensary. Tenth Edition. Leather. Price, $2 fore irrepara
with 63 Illustrations. Philadelphia: P. Blakis

An Introduction to Bacteriological a perative removal
By Gilbert J. Fowler, D.Sc., F.I.C., Lec at our disposal.
Chemistry in the Public Health Departme
Manchester. Cloth. Price, $2.10 net. he says, after an ca
tions New York: Longmans, Green & to speak of. It is ers.

Annual Report of the Bureau damage and cures
Islands. From July 1, 1909, to an early operation aberculo
M.D., Director of Health, Passed the na
Health and Marine-Hospital Se
trations. Manila, 1910. exceptio

Hookworm Disease. A Hinische Wochensch monstrates
Are Interested. Prepared U
of Health of Florida, by DrVIII, No. 8, pp. 393 ug tuberculos
Officer. Publication 79. ous Injections. (Zu conclusion that
illustrations. er Intravenösen In

A Laboratory Manfibrinierten Mensc n treatment of t
Biology. By Richaravenous Injections of against the unde
De Witt Clinton Hario.
Pp. 352, with 86 Frambesia. R. P. Stro
Essentials Rays in Diagnosis of Gast —Kayser does not
95 Nature and Treatment of Osteomalag convinced that it i
96 *Epidural Injections in Sciatica. P. der local anesthesia, a
97 *Cancer in Bavaria. (Ergebniss
Königreiches Bayern in Jahre 19 gement whom otherwi
98 Defect in Pectoralis Muscle and H
vom Pektoralisdefekt und Schu ould be out of the qu
hauer. them, to say nothing
99 Successful Removal of Racemose
nöses Angiom des Gehirns; mi might so easily snuff o
100 History of the Telecardiogram. h prostatic enlargement

96. **Epidural Injections in Sc** is risky, especially under g
firms that reported by Blum the bladder can be restored
the prompt and permanent ons by the preliminary opera
tion of about 20 c.c. of p tter able to stand the stress
anesthetic. His best results while the operation in two s
of Schleich's No. II solution. ger of infection of the woun
seven cases of inveterate sci two-sitting technic is the
and rebellious coccygodynia the bladder goes a lo tion
12. *In this latter case the* p unctioning of that lary
a single injection of 10 c.c. of cases in which h n-Sar
The epidural injection also good outco coprol n
nocturnal enuresis; the one d the ordina